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Asutosh Museum Memoir No. 1

EXCAVATIONS AT BANGARH

(1938-41)

BY

KUNJA GOBINDA GOSWAMI, M.A.

OFFICER-IN-CHARGE OF EXCAVATIONS AND LECTURER IN SANSKRIT AND ANCIENT INDIAN HISTORY AND CULTURE,
CALCUTTA UNIVERSITY

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UNIVERSITY OF CALCUTTA
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राज्य संग्रहालय पुस्तकालय • लखनऊ •

UNIVERSITY OF CALCUTTA
1948

Rs. 6/

913.5414

PRINTED IN INDIA

PRINTED AND PUBLISHED BY NISHITCHANDRA SEN,
SUPERINTENDENT (OFFG.), CALCUTTA UNIVERSITY PRESS,
48, HAZRA ROAD, BALLYGUNGE, CALCUTTA.

1527B—April, 1948—E.

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FOREWORD

The history of Bengal more than that of other parts of the country depends on what materials are found in the course of search above the ground or by way of archaeological investigations in the mounds. What has been added to our knowledge of Bengal's culture of the Pre-Muhammadan period is mostly derived from the collections made in the Varendra Research Society, Indian Museum, Asutosh and Dacca Museums and the excavations at Paharpur, Mahasthan, Rangamati and other similar places. Most of the systematic excavations were carried out on the initiative of the Archaeological Department, but it must not be forgotten that the late Sir Asutosh Mookerjee, as Vice-Chancellor of the Calcutta University, was the first to conceive of the idea that the Calcutta University, the premier University of India must undertake to carry out archaeological excavation as an integral part of its programme of all-round advancement of learning in general and its scheme of post-graduate teaching of Ancient Indian History in particular. With this end in view he came into touch with Sir John Marshall, then Director General of Archaeology, in 1922 and the result was the first systematic excavation in Bengal at Paharpur in which the Archaeological Department of the Government of India and the Varendra Research Society collaborated with the Calcutta University represented by Dr. D. R. Bhandarkar, who had already carried out successful excavations in Sindh, Rajputana and Central India.

With the opening of the great Indus Civilisation the outlook of Indian archaeology was vastly changed and it was felt that the field of archaeological work in India had become so vast as to necessitate the co-operation of outside bodies in the task of unravelling India's past. The amendment of the Ancient Monuments Preservation Act, 1904, was therefore passed by the Legislature in 1933 which made it possible for non-departmental bodies, both Indian and foreign, to excavate under a system of licenses at any site in British India. The only scientific or academic body of a permanent character that has so far come forward in India to avail itself of the provision in the 1933 amendment has been the University of Calcutta. No society or association from Europe came forward for a similar purpose and it is unlikely that for several years to come after the war, European scientists will find the necessary support to launch archaeological investigations in any part of India. A well-equipped American Expedition was, however, sent to this country in 1935-36 under the leadership of the late Dr. E. J. Mackay and the result of its work at Chanhu-Daro have been published in extenso. It is hoped that the advent of a similar expedition from abroad after the war will give the necessary stimulus to Indian archaeology.

The Calcutta University Archaeological Expedition was fortunate in having for its leader Mr. Kunja Govinda Goswami, M.A., who has had the benefit of receiving training under Sir John Marshall and Dr. Mackay as an Archaeological apprentice in various excavation sites, such as Taxila and Mohenjo-daro until the programme of archaeological exploration came to a halt with the retrenchment campaign in 1931. Mr. Goswami's appointment in the Sanskrit Department of the Calcutta University enabled him to impart a short course of training to University post-graduate students in the excavation field. The site selected for the work was Bangarh, the ancient *Koṭivarṣa* or Devikot in the Dinajpur

District and the work has been carried out on a small scale but with energy and method. The results achieved during 4 short seasons of work have been briefly described in the following pages. The fact that the site continued to be in habitation till and even during the early Muslim period accounts for comparative paucity of highly artistic finds till the excavation was carried to deeper levels. It is in the lower strata from the second century B.C. to the 5th century A.D. that in this, as in other ancient sites, Indian art shows itself at its best. The decorative terracotta art of Bengal as exemplified by the Paharpur plaques characterising the work of the Pala period has also been in evidence in the upper strata. What is needed is further work in the lowest strata which ought to tell us more about the age when this great city was founded. As Mahasthan, the other important city site of North Bengal, the only Mauryan find is the inscription, which was a chance discovery and the lowest levels still lie untapped.

Of the ruins left at Bangarh on the surface the more prominent images, miniature shrines and door-ways were removed to Dinajpur, where they are still to be seen in the palace of the Maharaja. The stones were brought down from Rajmahal and were extensively used for image-making and temple-building in the late Pala and Sena periods. Apart from this, the builders of these times had few resources and little original design. To the second or early Pala stratum belongs the most remarkable construction recovered in the excavation, *viz.*, the lotus tank or *kuṇḍ* which is unlike any found in contemporary sites in India. Its purpose must undoubtedly be religious and ceremonial rather than purely ornamental and the disposition of the rooms and the bases of a pillared canopy that once stood above it strengthens this supposition. In the third stratum the style of pottery decoration of various designs and the shapes of pottery associated with the Gupta and Kushan periods have been found. The lower strata have been only touched in one or two places but sufficient material has been found to indicate the existence of the city in the Sunga period, both the terracotta figurines and the seals belonging distinctly to this age. Minor antiquities like beads are also numerous in the lower strata. Mr. Goswami has exhaustively dealt with all classes of antiquities found in the excavations and has given special attention to pottery, which is now recognised as a fundamental study in field archaeology. In conclusion, I may only hope that the authorities of the Calcutta University will continue to support schemes of archaeological research in India in which they have been pioneers and enable Mr. Goswami and his associates to create a school of Indian archaeology, which together with the Asutosh Museum of the University will firmly establish its lead in the academic and practical sides of archaeology.

K. N. DIKSHIT,
Director General of Archaeology.

SIMLA,
21.11.1943.

PREFACE

The idea of combining the theoretical as well as the practical sides of archaeology for the proper understanding of the ancient history of India was fully conceived by the constructive genius of the late Sir Asutosh Mookerjee. This is why he, after inaugurating the department of Ancient Indian History and Culture, arranged with Sir John Marshall, the then Director General of Archaeology in India, to take up the work of excavation at Paharpur in Rajshahi district of North Bengal under the guidance of Dr. D. R. Bhandarkar, the then Carmichael Professor on behalf of this University in collaboration with the Archaeological Survey of India and the Varendra Research Society in 1923-24. The work which was also participated by some teachers of the Post-Graduate Department of the University was carried on for one season only.

Sometime after the University authorities established the Asutosh Museum of Indian Art and Archaeology for the benefit of the students of Indian History and Culture. Later on when the Ancient Monuments Preservation Act of 1904, was amended in 1932 and subsequent years throwing open the work of archaeological excavation to non-Government bodies, Dr. (then Mr.) S. P. Mookerjee, the then Vice-Chancellor of the Calcutta University, took initiative and arranged for a licence from the Government of India for digging at Bangarh (Dist. Dinajpur, North Bengal) in 1937-38 for the practical field work and research of the students and teachers of this University as well as for the replenishment of the Asutosh Museum with ancient relics. Accordingly arrangements were made for the work which was entrusted to the charge of the undersigned. The excavation was started at the *Main Mound* of Bangarh (ancient *Koṭivarṣa*) in 1937-38 and continued till 1940-41. Thereafter the operation had to be suspended on account of various difficulties arising out of World War II and other internal disturbances. The following pages contain an account of the works done at Bangarh during four successive winters (1937-38 to 1940-41) for two to three months each time. This report which is being published as the *Asutosh Museum Memoir No. 1* was drawn up shortly after the work was finished, but the unusual delay in placing it before the public is mainly due to the difficulties in securing materials for printing and reproduction owing to the abnormal situation brought about by the war as well as subsequent disturbances in the country.

The inauguration of this branch of study and research in this University is one of the manifold activities of Dr. S. P. Mookerjee during his term of Vice-Chancellorship for the Advancement of Learning in this part of the country. But for his initiative and keen interest the work could not have been successfully carried on. It is also to be recorded here with a feeling of sorrow that the late Rao Bahadur K. N. Dikshit, the then Director General of Archaeology in India, who helped us by selecting this site and issuing a licence for excavating at Bangarh and who also used to take keen interest in our work and had kindly gone through the manuscript of the report and added a foreward to it is no more to see the work published. Another gentleman who rendered most valuable help in the preparation of the scheme and execution of the work was the late Mr. N. G. Majumdar, Superintendent, Archaeological Survey of India, who fell a martyr to the cause of archaeology at the hands of the dacoits in Sind-Beluchistan frontier in 1938. His premature death has caused an irreparable loss to Indian archaeology. It is to be recorded here that it was Mr. Majumdar who gave us facilities to work at Bangarh during the first season (1937-38) in collaboration with his department even before we could secure the necessary licence which was delayed for official formalities. Cruel death has also taken away Mr. J. Chakravorti, the then Registrar of our University, who was ever ready to extend his helping hand for the execution and progress of the work.

Professor P. N. Banerjee, Vice-Chancellor of our University who takes very keen interest in development of this great institution in various directions has shown every sympathy for our work. Dr. H. C. Ray Chaudhury, Carmichael Professor of Ancient Indian History and Culture also offered valuable suggestions in various stages of the operation. Dr. Mortimer Wheeler, Director General of Archaeology in India had kindly gone through a portion of the proof of this report. Dr. N. P. Chakravarti, Joint Director General of Archaeology in India, Messrs. T. N. Ramachandran, A. Ghosh and Dr. K. N. Puri, Superintendents of Archaeological Survey of India and Mr. D. P. Ghose, Curator, Asutosh Museum, gave various valuable suggestions in connection with this report. Mr. S. Mukherjee of the Archaeological Survey of India kindly scrutinised the plans and drawings published in this report. The authorities of the Dinajpur District Board were good enough to sink a tube-well on the site for the supply of drinking water. I take this opportunity to offer our hearty thanks to the above-mentioned gentlemen as also the Dinajpur public and others who helped us in our endeavour.

The following members took part in the Excavation :—

1937-38

1. Mr. K. G. Goswami
2. ,, S. K. Saraswati
3. ,, T. C. Ghosal } Ancient Indian History and Culture } Post-Graduate Students
4. ,, S. K. Bose

1938-39

1. Mr. K. G. Goswami
2. ,, S. K. Saraswati
3. ,, Amal Raychoudhury—Research Scholar
4. ,, Santi Nandi—Anc. Ind. Hist. & Cult. } Post-Graduate Students
5. ,, Asoke Kumar Bhattacharya—Sanskrit
6. ,, Devaprasad Guha—Pali
7. ,, Naren Mallik—Draftsman-photographer

1939-40

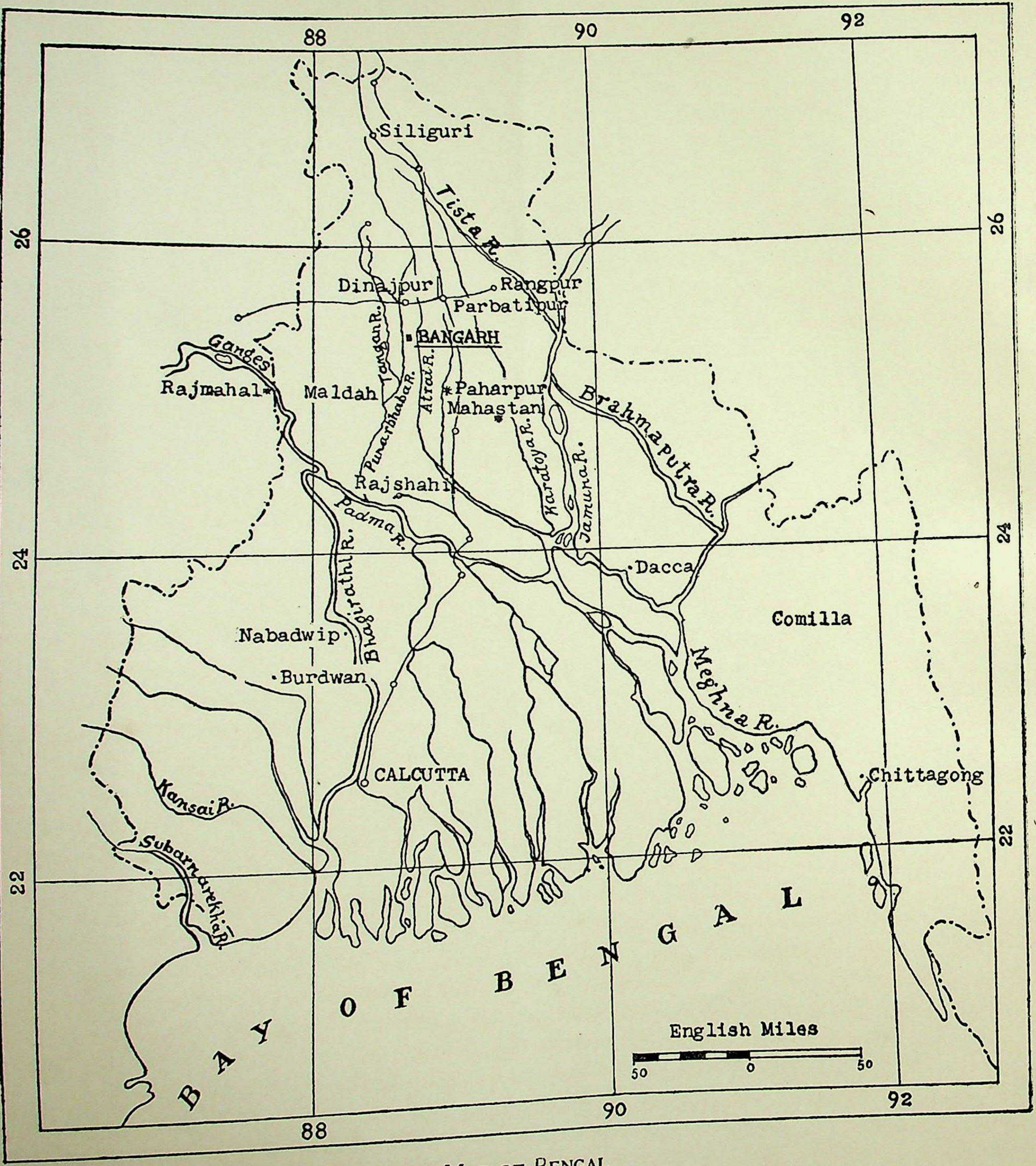
1. Mr. K. G. Goswami
2. ,, Amal Raychoudhury—Research Scholar
3. ,, Lakshmi Narayan Chakravarti—Anc. Ind. Hist. & Cult. } P.-G. Students
4. ,, Dilipkumar Banerjee— ,, ,, ,, ,,
5. ,, Dinesh Chandra Das—Sanskrit
6. ,, Jitendranath Banerjee—Pali
7. ,, Krishnachandra Sarkar—Draftsman-photographer

1940-41

1. Mr. K. G. Goswami
2. ,, Amal Raychoudhury—Research Scholar
3. ,, Sudhakar Chatterjee—Research Scholar
4. ,, Kesab Chandra Ray—Pali, P.-G. Student
5. ,, Krishnachandra Sarkar—Draftsman-photographer

In this connection I wish to record my sincere thanks to my above-mentioned colleagues and students who took part in the excavation and spared no pains to bring it to a success. Last but not the least the officiating Registrar Dr. B. B. Dutt and the Press authorities of the University are also to be thanked for the care they have taken in connection with the publication of this report. Mr. K. C. Sarkar took photographs and prepared plans and drawings for the report under my personal supervision.

11.12.47. K. G. GOSWAMI.


88
90
92
26
24
22
Siliguri
Tista R.
Dinajpur
Rangpur
Parbatipur
BANGARH
Ganges
Rajmahal
Maldah
Tangan R.
Punarbhaba R.
Atrai R.
Paharpur
Mahastan
Brahmaputra R.
Karatoya R.
Jamuna R.
Rajshahi
Padma R.
Bhagirathi R.
Dacca
Comilla
Nabadwip
Burdwan
Meghna R.
CALCUTTA
Chittagong
Kansai R.
Subarnarekha R.
BAY OF BENGAL
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MAP OF BENGAL

EXCAVATIONS AT BANGARH

(1938-41)

CHAPTER I

THE SITE AND TOPOGRAPHY, ETC.

The extensive ruins of Bangarh are found on the eastern bank of the river Punarbhavā about 18 miles to the south of Dinajpur in the Rajshahi division of Bengal. North Bengal is geologically more ancient than South and the major portion of East Bengal and the tract comprising North Rajshahi, West Bogra, East Maldah and most of Dinajpur is particularly famous for historical and archaeological interest and Bangarh occupies a very prominent and central place in it. The district of Dinajpur is a triangular tract of land with the acute angle towards the north, lying between the districts of Jalpaiguri and Rangpur on the east and Purniah on the west and in the south bordering on parts of Maldah, Rajshahi and Bogra districts. The country is generally flat, although towards the south it is to some extent undulating. The district is traversed in every direction by a net-work of rivers and water-courses. There are not many *bils* or marshes in Dinajpur except those which are caused by the overflow of the rivers during the rains and which are actually connected with the latter at that time but become quite dry in winter. The shallow valleys through which pass the numerous rivers of the district are narrow and consist of a rich loam resting on clay of light colour and at some points (for instance along the course of the Karatoyā) the soil is a reddish clay. The whole district forms part of a rich agricultural tract lying between the Ganges and the southern slopes of the Himalayas and as might be expected from its proximity to the Sub-Himalayan ranges the country has a very gradual slope from north to south. Of the numerous rivers in the district only the following rivers are useful for navigation by country boats during the rainy season—(1) Mahānada, (2) Nāgar, (3) Kulik, (4) Tāngan, (5) Chhiramatī, (6) Punarbhavā, (7) Dhāpā, (8) Brāhmanī, (9) Ātrāi, (10) Garbheswarī, (11) Kānkrā, (12) Yamunā and (13) Karatoyā. Of these the Punarbhavā flows nearest to the site of Bangarh, while Tāngan and Brāhmanī flow at some distance.

Important cities of ancient India were generally situated along big rivers, and Bangarh was no exception. The sacredness of the Punarbhavā has been highly spoken of in the Purāṇas and the literature. Bangarh is included in the zone of the high land of Varendra in which lie other places of historical importance such as Paharpur, Mahasthan, Badal, Amgachi, Manohali, Tarpandighi, Agradigun, Patharpunja, Khalimpur and Damodarpur, etc.

So far as our previous knowledge of this part of the country is concerned, North Bengal formed part of the Maurya Empire in 3rd century B.C. The Mahasthan inscription written in the Brāhmī script of 3rd century B.C. tells us that a provincial governor was posted in Puḍanagara (*i.e.*, Puṇḍranagara, mod. Mahasthan in the Bogra district). The find of Sunga terracottas at Mahasthan, Tamluk and some places of the Murshidabad district and elsewhere in this province as also the Kushan coins found at Mahanad in the Hooghly district throw some light on the period intervening between the Maurya and the Gupta empires. The set of copper plate inscriptions discovered at Damodarpur along with others found elsewhere indicate that the Guptas were the overlord of North Bengal (Puṇḍravardhana-bhukti) which they used to rule through a provincial governor and district officers one of whom was stationed at Koṭivarsha or Bangarh. After the decline of the Imperial Gupta power in 6th century A.D. some scions of this family (Vainya Gupta and others) continued to rule in Bengal. They probably asserted their independence and some of the local rulers, *viz.*, Dharmāditya, Samāchāradeva and Gopachandra are found in South Bengal. In the beginning of the 7th century West and possibly North Bengal was ruled by King Śaśānka, a follower of Śaivism. It is at this period that Bengal was making an attempt to assert its individuality in the field of art. The origin of the Paharpur school of sculptures may be traced to the end of 6th and beginning of the 7th century A.D. Thereafter followed a state of anarchy or *mātsyanyāya* and then the Pālas came to the throne of Bengal in the last part of the 8th century A.D. and built their empire but they got a set back at the hand of the Gurjara-Pratihāras in the last quarter of the 9th century. Then followed the decline of the Pālas, and the rise of Divya, the Kaivarta, the defeat of the Kaivartas and accession of Rāmapāla to the throne. Then again Pāla power began to decline and gradually succumbed to the rising power of the Sena dynasty and then to the Muslim.

So far as the antiquity of the site of Bangarh is concerned, local tradition has it that it was the capital of Bāṇa, the King of Demons. In Hemachandra and Keśava (author of the *Kalpadrukoṣa* 17th century A.D.?), the terms *Devīkoṭa*, *Umāvana* (or *Ushāvana*), *Koṭivarsha*, *Bāṇapura*, and *Śoṇitapura* are synonymous and are supposed to be identical with the ruined site of Bangarh. In the *Vaijayantī* of Yādavaprakāśa (11th century A.D.) Devikoṭṭa and Koṭivarṣa are synonymous. Bhadrabāhu mentions in his *Kalpasūtra* (ed. Jacobi, p. 79) a class of Jains of Eastern India by the term *Koḍivarisiya* (Koṭivarshīya). The city Śoṇitapura is mentioned in the *Vishṇu Purāṇa*,[1] *Śrīmad-bhāgavata*,[2] and in Nārāyaṇa's commentary on verse 32 of canto I of Śrī-Harsha's *Naishadha Charita*. Koṭivarsha finds mention also in the *Vāyu Purāṇa*[3] and the *Bṛhat Saṁhitā* (6th century A.D.), in the former as a nagara (town). In the inscriptions of the Gupta period[4] Koṭivarsha is called both the head quarters (*adhiṣṭhāna*) of a district as well as the district (*vishaya*) itself which formed part of the Puṇḍravardhana-bhukti. Under the Pāla dynasty of Bengal Koṭivarsha is found to enjoy the status of a *vishaya* (district) only.[5] In the *Rāmacharita*[6] of Sandhyākara Nandī (11th century A.D.) śoṇitapura is mentioned as a very prosperous and magnificent city. It was in continuous occupation till the invasion of the Turks in 13th century A.D. The place was known to the invaders as Devikoṭ or Dev-koṭ, and it possesses some Muslim records of 13th to 16th centuries. Dr. Bloch supposes that this place was an important frontier post in the Muslim period. He writes "thus Debikot near Gangarampur Police Station was an important frontier post in the Muhammadan period, and the remains found at this place, which is now called the Fort of Ban Raja, show that it was in existence already in the time of the Hindu Kings."[7]

This vast area of Bangarh is full of a number of mounds of different sizes. The ruins of the citadel or fortress (about 1800′ × 1500′) surrounded by a ditch on three sides, *viz.*, north, east and south occupy a considerable area. The citadel area was full of thick jungle when Sir Alexander Cunningham visited it more than six decades ago (A.D. 1879-80). He writes thus in his report "The citadel which the people call Devikot is about 2000 ft. square, and is so filled with dense jungle that it is quite impossible to penetrate any distance inside except in the very hottest weather, when the grass and underwood have been burnt and the tigers and leopards have sought shelter elsewhere."[8] The thick jungle referred to by Cunningham is no more visible although the Rajbari mound and the ramparts do yet contain some thickets and thorny creepers. Tigers and other ferocious wild beasts are now things of the past. The Rajbari mound is surrounded by a high rampart of bricks. In the centre of the area is the highest mound which is said to represent the site of the royal palace. The main city occupied by the civil population was situated to the north and east of the citadel. The city was about one mile square in area. On the eastern side of the citadel there will be found a gate and a causeway about 200 ft. long leading across the ditch into the city. Buchanan Hamilton[9] visited the place more than a century ago and made the following observation—"The ruins of Bannogar occupy the east bank of the Punarbhavā, which here runs from the north-east to south-west for about two miles, beginning a little above Dumdumah. I first examined the citadel, which is a quadrangle of about 1800 ft. by 1500 ft. surrounded by a high rampart of bricks, and on the south and east by a ditch. The remainder of the ditch has been obliterated or destroyed by the Punarbhavā which in the time of Ban Raja, is said to have passed to the north of the present course of the *Brahmani* and many large water-courses which are to be seen in that direction, render the tradition probable. On the west face of the citadel is a large projecting part, probably the outworks before a gate. In the centre is a large heap of bricks, said to have been the Raja's house and on the east face is a gate and a causeway about 200 ft. long. leading across the ditch into the city which has been square of about a mile in diameter and has been also surrounded by a rampart of brick and by a ditch. ...." A little away to the south-east there are two pools called the *Jivat Kuṇḍa* (or the pool of life) and the *Amrita Kuṇḍa* (or the pool of immortality). In the Amrita Kuṇḍa or 'pool of immortality' Buchanan found a projecting stone which after being brought out proved to be an image of a bull or Śiva's vehicle *nandin*. He found also at Dinajpur an image of Gaṇeśa which was picked up from Bangarh. He also notices "the great number of stones in these ruins and a vast many, that have been removed by the Dinajpur Rajas to construct their works, show that Bannogar has been a place much ornamented and its walls show that it was of considerable size and strength. The people here allege that all the stones which are to be found in the buildings of this district, have been carried from it and that Gaur owed its most valuable materials to the ruins of the Ban Raja's edifices." To the north-west of the ruins of Bangarh on the other side of the river (Punarbhavā) there is a small mound popularly known as Ushāgarh (named after Bana's daughter Ushā). This mound is likely to be of the same age as Bangarh. It is interesting to note that the Punarbhavā has been flowing between these two places without changing its course for several centuries.

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[1] Bangabasi ed., XXXIII, 11-12.

[2] Bangabasi ed., X, 52. 2.

[3] Ch. XXII, 209.

[4] Ep. Ind., Vol. XV.

[5] A. K. Maitreya—Gauḍa Lekhamālā, pp. 91 f. and 21 f. and 147 f.

[6] Sandhyākar Nandi—*Rāmacharita*, Ch. III, Verses 9-10.

[7] *Annual Report of Arch. Sur., Eastern Circle*, 1900-01; Appendix A, p. V.

[8] Cunningham, *A. S. R.* Vol. XV, pp. 95 f.

As regards the previously found antiquities of the place mention may be made of several important pillars, architectural stones and images which were taken from Bangarh and are at present found at the Dinajpur Rajbari. The inscribed basalt pillar of the Kamboja King, whose date is yet a disputed point, the sand stone pillar crowned by a black basalt image of Garuḍa, a miniature shrine with a *śikhara* (spire) of the Eastern Indian type, beautifully carved door-way and door-jambs of stone and a collection of images are some of the very interesting objects from Bangarh now in possession of the *Maharaja* of Dinajpur. Mr. Dikshit during his visit to the site in the year 1921-22 picked up a fine terracotta head (height 9″) of the early Pāla period (8th-9th century A.D.) from a modern Śiva temple of Bangarh.[10] Besides these and the inscriptions already mentioned, a stone image of Sadāśiva with an inscription of Gopāla III also has recently been discovered.[11]

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[9] Buchanan (Hamilton)—"A Geographical, Statistical and Historical description of the District of Dinajpur." Published in 1833, pp. 50-53. Martin—Eastern India, Vol. II, p. 661.

[10] Arch. Sur. Rep., 1921-22, pp. 83-84.

[11] The image is now housed in the Indian Museum, Calcutta.

As regards other interesting facts, mention may be made of the Muslim ruins of the Durgah of Shah Ata which contains four inscriptions of different times (13th to 16th century A.D.) as also of the Dhal Dighi and the Kal Dighi, one Muslim and the other Hindu from their orientation.

CHAPTER II

EXCAVATION

The University of Calcutta under the patronage of its then Vice-Chancellor, Dr. S. P. Mookerjee, who always takes keen interest in all progressive activities in educational and other spheres, undertook the work of excavation at Bangarh in March, 1938. As the summer was almost near at hand the work was only initiated this season only to be continued in future if the results of this trial digging were promising. The little amount of work in about three weeks' time after clearing the jungles was really encouraging and induced the University authorities to continue the operation for a further period. Consequently, the excavation was carried on in the winters of 1938-39, 1939-40 and 1940-41 also, the work being done for about a couple of months every season.

Actual digging started on 6th March, 1938, in the Rajbari Mound which measures about 350′ N.S. and about 300′ E.W. on the citadel area. No local coolies, neither Hindu nor Muslim, were available at the beginning for the purpose of excavation of the site as they were superstitious and afraid of some ill-luck befalling them in case they disturbed the ruined palace of Ban Raja. Consequently, the work had to be carried on only with the help of a few trained Paharpur coolies who were requisitioned for starting the work. The local coolies—Santhals, Poliyas and Muslims, who used to come in a body at first to see the fun from a distance gradually began to enrol themselves for the work. At last the number of candidates became so large in succeeding periods that many people had to go back disappointed for want of employment. In two seasons the local labourers picked up the work and the Paharpur people were no longer required in subsequent seasons.

Several trial trenches were dug in different parts of the Main Mound or the Citadel. Everywhere in the trial trenches except Tr. No. 9, *i.e.*, South Western portion of the mound, various types of enamelled (or glazed) pottery, *e.g.*, fragmentary dishes, bowls, cups and vases and bricks, etc. of blue and green colour were found almost on the surface. This enamelled pottery ordinarily met with at Bangarh is characteristic of the Muslim period. The south western area of the mound where Tr. No. 9 was dug, is cut away by a depression which now provides passage for rain water. Excavation here has laid bare traces of buildings, rampart walls and two circular bastions thereto attached to the western face. These structures are associated with finds of an earlier period. It appears, this area had already been deserted before the Muslims overran the place and it was left uninhabited in the Muslim period.

The Main Mound or the Citadel has the appearance of a table-land dotted with mounds of different sizes here and there. Of these the mound of the Rajbari or the royal palace is the largest and highest. It occupies almost the central position and is about 15 ft. high at places from the surrounding land, which again was about 4 ft. high from the border level, and 11 to 12 ft. higher than the road level. The main mound is more or less rectangular in shape, but not exactly in orientation with the cardinal points. Its length appears to be from north-east to south-west and breadth from south-east to north-west. The whole Main Mound is now roughly parallel to the present and probably old course of the Punarbhavā. The ancient city of Koṭivarsha was apparently planned to accord with the course of the river just as modern architects build roads and houses and plan csitie by the side of the rivers.

That the place was protected by rampart walls is well understood by the presence of higher level on all the four sides which are yet full of thick jungles. At some places this rampart wall has, in fact, been laid bare. The interior land brought by local people under cultivation, has destroyed several ancient buildings and antiquities. At many places the plough-share has played havoc among the constructions and rain water helped the exposition and loss of the minor antiquities; at others the rain water has cut the ground, made a depression and found its way to the surrounding ditch or drain.

The area is vast and it requires works on a large scale for several years to get a clear and comprehensive idea of the site which has been in occupation for several centuries beginning with the age of the Mauryas or Sungas down to the time of the Muslims. The excavations, however, during four consecutive winters are of the nature of trial diggings, and the results obtained are summed up in the following pages.

CHAPTER III

BUILDINGS

It is said that a few years ago some portion of the Main Mound was inhabited by the Santhals who ultimately left the place one by one on account of the epidemic which is ascribed by them to the fury of the tutelary deity of the Mound. The stray and flimsy houses built by picked up bricks and brick-bats placed in mud were found on the surface.

Stratum I. The consideration of these modern poor structures is out of place here for obvious reasons. So far as the ancient monuments are concerned we come across the structures of the Muslim period in the first stratum which are characterised by a good deal of glazed (or enamelled) pottery of various types. The buildings of this period are hopelessly damaged for the reason that they occupy the uppermost stratum which has been highly disturbed by cultivation and other agencies. The construction of these buildings is very poor and flimsy inasmuch as they were built of older bricks and brick-bats and similar materials collected from the ruins of the earlier structures of the late Hindu period. Excavation in Trench 5 has laid bare the plan of some buildings and a few walls of the late period. These structures are generally found superimposed on earlier buildings, which when exposed, show better workmanship.

Up to the present moment Tr. 5 only has brought out some structures 'of the first stratum with some plan of construction. The structures in this area have suffered a good deal at the hands of the cultivators and brick-hunters. About the middle of this area we come across two curved walls placed against each other like two hyperbolic curves [Pl. I, VIII(b)]. The space between these curved walls is apparently a passage which divided the area into two parts, the south eastern part which is here called *Block A* and the south-western, *Block B*.

In *Block A* a one-room house measuring 15′6″ N. S. × 13′6″ E. W. is found standing with its eastern wall above a wider and more massive wall which runs for a considerable distance roughly from north to south. Broken parts of the compound wall of this room are found to the south. The house had its entrance in the western wall as traces of steps and pavement have been found in front of the door-way. Some other stray walls are also visible in this area, but they are too fragmentary to bring out any plan of buildings.

Block B also represents very poor and meagre construction. The walls here are found on the earlier structures in a distorted condition. A small house measuring 9′9″ E. W. and 9′10″ N. S. was exposed in course of excavation in this area. The house had its door-way in the eastern side. It gives only the out-line of the foundation of four walls and the doorway. [Pl. IX(a)]

About 50 ft. to the south of the above house in *Block B*, the foundation of two damaged houses have been laid bare. A fourth house is seen in a broken condition in between the curved walls. The houses exist only in foundation and are in a very poor condition.

Stratum II. From a study of the lay-out of the buildings in different parts of the site, the conclusion is inevitable that the level of a particular stratum at one place generally agrees with that of the same stratum at other parts of the site with slight local differences. Generally speaking, the buildings of the *second* stratum are found at a level of 1½ ft. to 4½ ft. below datum. Trenches 5, 7 and 8 have supplied examples of structures belonging to the *second* stratum which, from a study of the buildings and associated objects, may be ascribed to the late Hindu or the Pāla period.

In trench 5, some very interesting structures have been brought to light, for instance, the beautiful ornate Kuṇḍa in *Block I* and a pillared hall in its counter-part *Block II*.

The building is designed as a hollow cross within a square 51 ft. a side. The hollow cross leaves four square rooms of equal sizes (14 ft. square) at the four corners of the main plot. At the centre of this cross in front of these corner rooms there is a pit (or Kuṇḍa) of the shape of a conventional lotus (5′6″ in diameter) with sixteen petals [Pl. I, II, IX(b), X(a)].[1] The centre of this lotus is at a distance of 11 ft. from the face of each of the corner rooms. At the centre of this lotus again at a depth of 8 inches there has been exposed an octagonal hollow structure (3′ in diameter) which has a brick built floor 10 inches below the bottom of the lotus. This conventional lotus is built of very finely rubbed bricks of different sizes according to the necessity. This octagon contains a pottery pipe (3½′ in dia.) in the north-western side of the pit for providing passage of water into a cess-pool outside, through an underground drain in one of the corner rooms (S. W.) The Kuṇḍa has got four stone pillar-bases around it *in situ* placed on a few courses of bricks. This indicates that the Kuṇḍa was inside a pillared hall. The supposition is strengthened by the discovery of a large number of decorative bricks bearing the figures either in toto or in part of human beings, birds and animals (*viz.*, deer, elephant, etc.,) besides flowers and foliage [Pl. XXVI(a), (b)]. The representation of animal and human life in bricks is evidently significant, because these bricks bearing or shaped into animal or human motif could not have formed part of any Muslim art or architecture. In ancient and mediaeval India decorative bricks with human and animal and flower and foliage motifs were generally used in religious buildings like temples and shrines, etc. Here again we find a niche in the wall to the north and another to the west of the pit or Kuṇḍa, [Pl. II, X (a)]. It is quite likely that such niches decorated the eastern and southern walls also which were damaged and are found to exist below the level of the niche in the two other walls.

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[1] I am told by Rao Bahadur K. N. Dikshit, Director General of Archaeology in India that lotus-shaped structures are found in the ancient cities in Ceylon, such as Anuradhapura and Polonnaruwa.

Moreover the corner room to the south-west of the Kuṇḍa has got a solid platform adjoining to south (probably for providing seat to the visitors) and a nicely finished and decorated wall in front of this solid platform. The passage between the solid platform and the decorated wall leads to the lotus Kuṇḍa through the south-western corner room. All these features are apt to convince that the lotus Kuṇḍa within the decorated pillared hall was associated with some religious activities. On the other hand, the floor level of the structure of the second stratum which is more than six feet below the superstructure of the Muslim period above suggests a fairly long intervening period. It is interesting to note that the interior walls (not the side walls) of the hollow cross shaped building are found in pairs probably with a view to making this massive structure strong and durable. The wide walls were made of nicely rubbed and highly polished bricks. Whole bricks were placed on both the front and back surface of the walls and the hearting was filled in with rubbles and brickbats, the mortar used being mud. Altogether the architect's work in buildings of the second stratum is very noteworthy. The wall to the east of the southern door-way of the south-western corner room shows very fine workmanship. It possesses very good mouldings and a row of lozenges in carved bricks at some height in the structure in which two pilasters are shown in relief. The excellence and fine finish of the construction is also well nigh manifest in the back side of the northern wall of the hollow square [Pl. X(b), XI(b)]. The same remark holds good in the case of the structures of the second stratum in Tr. No. 8 [Pl. XVI(a)] also. Here we get the foundation of a building (measuring 18′6″ E.W. × 14′ N.S.) containing mouldings with finely rubbed bricks. A structure with sixteen low pillars in Tr. No. 8 [Pl. IV, XVII(a)] is supposed to be a damp-proof contrivance and may be compared with a similar structure discovered at Paharpur in Bengal.[1] This peculiar structure was probably used for storing food-grains. The damp-proof structure of Bangarh belongs to the second stratum and is an instance of fine workmanship. Another structure with sixteen low pillars (but without the semi-circular opening at one side) belonging to the second stratum has been exposed in the same Trench [Pl. IV, XVII(b)]. Other structures of this period are *residential buildings*, *compound walls* (or partition walls), *pavements*, and a *ring-well*. Of the residential buildings, mention may be made of some houses exposed in the south-eastern area in Trench 5 (Pl. III) and the house with two rooms and a compound wall to the south in Tr. 7 and some others in Tr. 8 (Pl. IV).

Compound walls are very frequently found but one which runs east to west for a pretty long distance (length 142 ft.)) and separates the northern portion of the site from the southern area is very wide, massive and long (Pl. III). This wall is provided at the bottom with a small outlet which is found in some other walls and houses also. The presence of a good number of pavements with bricks on edge and laid flat is interesting. These structures are sometimes found inside the house and sometimes outside. Such a pavement (measuring 16′2″ E.W. × 12′2″ N.S.) has been found in the east of a pillared hall in Block B. The structure is gradually sloping towards the east and the placing of bricks in its construction is in a decorative fashion [Pl. I, II, XIII(b)]. This structure looks like a ramp in its present condition. At one time it seems to have provided an entrance to house in this direction.

Some other pavements are found in several other parts in and near Block II. A pavement in between Block II and the above-mentioned pillared hall to the south of Block I (*i.e.*, the Block containing the Hollow Cross with lotus-shaped pit) is found enclosed by walls and might have served as a

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[1] *Cf.* Dikshit—Paharpur Memoir No. 55, Pl. XXXV a

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bath-room. Such pavement has been discovered at a wider scale to the south and south-west of the former.''[1]

Pavements with bricks-on-edge and laid flat have been discovered also in the area exposed by Tr. 8. At one place to the north-east of the temple (in Tr. 8) the construction which is in a broken condition appears to be like that of a passage (Pl. IV.)

The pavements with bricks-on-edge and laid flat are generally constructed where the structures were exposed to wear and tear. Such pavements are found also by the side of the wells. One is found by the side of the well of the second stratum in Block II. Ring-wells were used for the supply of drinking water to the people of Bangarh who were associated with the second stratum (*i.e.* Pāla period) like their predecessors of the earlier strata (discussed elsewhere). One such ring-well (dia. 4′6″) of the Pāla period with rope marks at the top surrounded by pavements with bricks-on-edge and laid flat bearing the sockets for placing the pitchers, has been exposed to the south-east of the Southern Block (Hollow Cross). No other well has yet been discovered in this stratum. Probably the scarcity is due to the fact that the ordinary people used the water of the river Punarbhavā flowing nearby. Moreover, some other wells, if there were any, may be revealed in course of further excavations.[2]

Temple. (Tr. 8)

The construction of the second stratum is really good and at this age Bangarh (ancient Koṭivarsha) was remarkably famous for religious activities. This fact is corroborated by the find, in Tr. 8, of the foundation of a building which looks like a temple (18′6″ × 14′0″ N.S.) with an ambulatory path around it [Pl. IV, XVI (a), (b)] and a terracotta figure of Gaṇeśa (Pl. XX. I) which is in the style of the Pāla period. The religious fervour of Śoṇitapura (mod. Bangarh) is narrated also by the poet Sandhyākara Nandi in his *Ramacharita*.[3]

As regards other structures, it may be mentioned that ancient Bangarh was enclosed by a ring of rampart walls in successive ages.

To the west of the mound by the side of the road of the District Board, excavation has revealed successive stages of the construction of the city wall which shows a very strong, wide and massive foundation at a lower level. Probably with the passage of time and waning of the prosperity of the city, the wall fell into disrepair for the time and work of later repair was carried on with the help of rubble and brick-bats. A third stage is betrayed by a better type of construction of the wall on the earlier foundations. These three stages, one below the other, have been exposed at a single place in the area mentioned above (Pl. VII).

That the city was in a prosperous condition in the Pāla period is also inferred from the find of the rampart wall with circular bastion attached to it in the north-western portion of Tr. 8. The peculiarity of the architecture of the second stratum or the Pāla period is that when any important or large house was constructed the general practice was to make its side-walls stout and massive and in the interior, stone pillars with octagonal body and square at the top and bottom placed on decorative stone pillar bases were provided for supporting the roof [Pl. IX(a) (b) XIV(b)]. The Pāla period is regarded as the golden or at least the main constructive age for art and architecture in Bengal. Stone was quarried in large quantities from the Rajmahal hills for the purpose of fashioning images and constructing shrines in Bengal. In this period we find that Bengal was already in possession of a distinct school of art and her influence was felt in other places also beyond her borders.

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[1] Pavements of bricks-on-edge and laid flat like the above have been discovered in large numbers at the pre-historic site of Mahenjo-daro by the side of wells and in bath rooms.

[2] A number of ring-wells has recently been discovered at Rairh, *Vide* "Excavations at Rairh" by Dr. K N. Puri., 14 f, Pl. III. Such ring-wells have been found at Taxila, Ujjain, Srāvasti and other ancient sites. These ring-wells, according to some scholars, served as soak pits, but the purpose of the Bangarh ring-wells was apparently to supply water to the citizens.

[3] *Rāmacharita* III, 9.

At Bangarh, we find that the houses were provided with spacious door-ways ranging from 3′8″ to 4′2″ wide. Almost all the door-ways of this period bear carvings on either side of the door-jambs. A stone door-jamb containing decorative designs of figures, foliage and flowers has been discovered in the pillared hall in Block I [Pl. XIV(a)]. This door-jamb which is a piece of art of the Pāla period measures 10′10″ in length, 1′10½″ in width and 10½″ in thickness. It contains three columns of decoration on either of its external sides with male attendant and Gaṇa figure having various kinds of ornaments and dress for different parts of the body. This door-jamb was made to serve at a later date the purpose of a door-sill as at present found, after mutilating a part of its decoration on one side.[1] Some such door-jambs which were collected from Bangarh are found to adorn the Palace of the Maharaja of Dinajpur. Here in Bangarh, the lintel, door-jambs and door-sill were made of stone with copious decoration and the door was very probably made of wood. The houses were perhaps provided with windows or sky-lights but no such evidence has been found as the walls are not sufficiently high.

That the houses in some cases were provided with verandahs with a series of door-ways is seen in Block I in its western portion [Pl. I, XII(a)]. The peculiarity of this verandah is that it does not give any entrance into the main Block I (Tr. 5) direct from the west. Probably this additional space was meant for the outsiders.

There have come out some specimens of pottery finials or *śikhara*, stone *āmalaka* and stone cornice with decoration and a stone gargoyle in the shape of a crocodile in course of digging in the second stratum. These architectural members are generally associated with Hindu buildings, specially temples. The supposition that some of the structures are connected with religious worship is further confirmed by the discovery of these objects. As regards the associated objects of the second stratum, we come across some colossal jars, vases[2], lamps, tumblers, cooking pots, dishes, bowls, saucers, lids (or jar covers) and also some miniature objects of pottery; terracotta image of Gaṇeśa (Pl. XX. 1) and various toys (animal and human figurines), marbles, copper objects and iron implements, miniature ivory stick and awls, beads of various stones and terracotta, bangles of glass and terracotta, etc., as also terracotta plaques and decorative bricks of various motifs.

Stratum III.

Tr. 5. Remains of the 3rd stratum have so far been exposed at places in Tr. 5 and Tr. 8, at depths between 4½ ft. and 7½ ft. below datum. In Trench No. 5, a masonry well (outer diameter 4′6″ and the inner diameter 3′2″) [Pl. XI(b)] just below the foundation of the northern side-wall of Block I and a few damaged structures and walls also have been laid bare. Some of the structures appear to be too small to be residential buildings. Of these one house measuring 15′10″ N.S.×9′6″ E.W. (Pl. III) to the north of the long massive wall (142′ long) might have served the purpose of a residential building. Others were probably used for storage or masonry pit. The walls of these structures are ordinarily 1′6″ wide, but some are 2′ and others even 2′10″ wide. Other structures belonging to stratum III will be laid bare if and when further excavation is carried on here.

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[1] *Cf.* similar treatment of stone pillars at Mahasthan. *Vide*, A. S. R. 1928-29.

[2] A pottery vase (No. 1163) with incised design of fish alternated by wavy lines was discovered in stratum II. Tr. 8. Painted vases with such designs are used in some auspicious ceremony like marriage, etc., in some parts of Bengal.

Associated objects. A large number of tiles with a pair of holes for fixing by means of a cord as well as a few ridges have been brought out in course of digging wherever the structures of the 3rd stratum have been found. The accumulation of these tiles and ridges in the third stratum indicates that at least in some buildings of this period such materials were used for the roof.

Tr. 8. A good number of walls some in parts and some in a better condition has been laid bare in the area exposed by Tr. 8. A ground plan of three long walls (62′0″ E.W., 57′6″ N.S. and 60′0″ E.W.) enclosing an extensive area has been made out (Pl. V). The walls are roughly 1′4″ wide (with the exception of the northern wall which is 1′0″ wide). This large block shows at places traces of a floor of lime and concrete (*surki*). The enclosing wall of the temple of the 2nd stratum in this area (Tr. 8) was built on the ruins of this Block to its northern side. This huge block consisted of a good number of houses and rooms. The thin and flimsy walls found inside the area can now hardly explain their utility in the bygone ages. A roughly circular brick-built Kuṇḍa (with diameter varying from 4′4″ to 5′5″) of the shape of a basket has been exposed within this block [Pl. V, XV]. This pit has a paved surface at the top with bricks-on-edge and laid-flat and its lower part is a hollow rectangle (2′0″ × 1′2″) gradually narrowing down step by step. This pit shows no outlet, nor does it go down to such a depth as to be used for the purpose of a well. Very probably it was connected with some religious purpose and was meant for depositing used flowers (nirmālya), etc., of some temple near by. The construction and shape of this pit is like the Kuṇḍas found even to-day in and by the side of temples in Bengal and elsewhere. The deposit of a huge number of pottery vases, jars and tumblers, etc., of various shapes and sizes presumably used up in temple service and offerings also confirms this belief.

The construction of the buildings of the third srtatum is very weak and poor. The walls are thin in asmuchas they do not appear to have strength enough to bear any roof above. The upper roof was probably made of tiles [Pl. XXIII(b)7)] with two holes and pottery ridge. The presence of a large number of such tiles and ridges as well as the poor construction of the walls go to confirm this supposition. Some pottery finials have come out in course of excavation in this stratum. These probably adorned the two extreme corners at the uppermost ridge of the house. The finials and a peculiar round-bottom oval-shaped pottery vase are associated with the third stratum, as are also some impressed designs in decorated pottery. The design of conventional lotus alternated by conch-shell with flower-on-stand on red and buff coloured potsherds of thin and comparatively thick fabric has been found in this trench and elsewhere in the mound in connection with the third stratum. This style is generally ascribed to the Gupta period. Such designs impressed as well as embossed on pottery have been recently found in the Ramnagar excavation (ancient Ahichchhatra) also, in association with the Gupta level, while the finials and the rounded bottom jars belong to a slightly earlier level, the considerations of level and other associated antiquities induce one to ascribe the third stratum at Bangarh to the Gupta period, though the potsherds with impressed or stamped designs come from an earlier level than the building period which owing to its decadence can be assigned to the late Gupta period. The associated objects of the third stratum besides those already mentioned are a good number of pottery objects, *viz.*, vases, tumblers, lids (or jar covers), saucers, bowls, cooking pots, dish (Pl. XXVIII, XXIX, XXX), stamped (or impressed) pottery [Pl. XXVII(a)] and various miniature objects, terracotta toys including human and animal figurine, copper and ivory sticks, iron implement, stone beads (Pl. XXXII), etc.

Stratum IV.

Tr. 5. At some places the excavation was carried down to the fourth stratum. This layer is at such a depth (7½ ft. to 14½ ft.) that it requires sufficient time and labour to expose the buildings and antiquities. Consequently two places were selected for deep digging in Tr. 5 and Tr. 8 with the result that a wall (15′ 4″ N.S.) and a cess-pit measuring 5′ 8″×5′ 8″ have been unearthed in the former (Tr. 5). [Pl. XV(a)]. Cess-pits without any outlet like this one, have also been found elsewhere in India.

In Tr. 8 a few walls in broken conditions have been laid bare. There also has been discovered an 8″-wide drain (24′ 6″ E.W.) with a semi-circular pit for placing some pottery jar for the deposit of refuge water [Pl. XVIII(a)]. Another wall running north to south in a fragmentary condition (the existing length being 14′ 6″ and width 14″) with the evidence of brick pavement to the east has also been exposed in course of digging. In this area evidences of the 4th stratum are too scrappy to enable us to make out any regular plan at this incomplete state of excavation.

The antiquities in association with this stratum are many and varied. Punch-marked silver and copper coins as well as cast copper coins have been found strewn over the area belonging to the fourth stratum. From the circumstances of their discovery it may be supposed that they were currrent during the period of the occupation level. The punch-marked and particularly the uninscribed cast copper coins were current during the Sunga period (or 1st—2nd century B.C.). Of the other objects some terracotta plaques [Pl. XXI(b)] with female figure bearing the characteristics of the 1st and 2nd century B.C. are also very prominent. Beads of various materials and shapes and pottery of different kinds cannot also escape the notice of the scrutinising eye. From the study of the objects of this stratum it becomes quite evident that this layer belongs to 1st—2nd century B.C. or the Sunga period. The terracotta sealings [Pl. XXIV(b)] bearing the early Brahmi script and black polished pottery associated with the Maurya and early Sunga periods and early types of beads, etc., corroborate this conclusion. Another remarkable object of this level is a very beautiful gold pendant of extremely fine workmanship. Such an object of art with minute details really speaks very highly of the age in which it was designed and made. A lot of round beads of stone with artificial white bands of net design also convinces us of the attainment of the art and artists of the 1st—2nd century B.C. of Bangarh.

Stratum V.

The only structure connected with the 5th stratum is a ring well (dia. 2′ 5″) in Trench No. 5 at a depth of 20 ft. from the datum line [Pl. XV(a)]. The excavation was carried down up to the virgin soil in this area near the ring well but nothing important came out. Probably this ring well marks the site of one of the earliest civilised settlements in Bangarh—nay in Bengal. So far as antiquities are concerned, pottery objects both mediocre and miniature were found in this layer. Fragments of colossal pottery were also discovered here. Various beads of different kinds of stone and punchmarked and cast coins of silver and copper respectively, as well as terracotta figurines were dug out from this stratum. The peculiarity of this stratum is that all the specimens of black pottery besides red and grey ones were found in this layer.

CHAPTER IV

ANTIQUITIES

SEALINGS AND INSCRIBED GOLD AMULET

The excavation has so far brought out a small number of inscribed objects, of which *eight* are clay sealings (some baked and some unbaked) and one gold amulet (in two parts) [Pl. XXIV(b)2]. Some of the clay sealings are very indistinct and give only an idea that some time they were used as written documents. Of the rest, the gold amulet and an unbaked clay sealing bear signs one of which appears to be common to both of them [Pl. XXIV(b)1]. One will be tempted to read Brahmi letters in them at the first glance but on minute study, it will be found that it is not possible to connect the symbols with any of the early Indian letters. They appear to be some mysterious signs. The sealing shows the symbols of a tree within railing in the upper part, a conch shell inverted at the left and a *svastiḳa* at the right of the inscribed signs mentioned above.

Of the remaining sealings, one (No. 1543) which has come out of Trench 9 from a depth of 13.45 ft. from the datum line is noteworthy. It is a lump of sticky earth bearing marks of fingers around. In it is stamped the inscription " *bh(u)taraḳhitasa* " in *early Brahmi* [Pl. XXIV(b)3]. The name " bhutarakhita " is found also on the Bharhut railing; and the scripts are also almost identical. It appears that this name was a popular one during the Sunga period.

A clay sealing (No. 1035) containing the design of rice-plants (with five very nicely carved stalks) within railing was discovered in Tr. 5 in 1939-40 at a depth of 8.59 ft. from the datum line [Pl.XXIV(b)5]. Such design is not generally found elsewhere, being perhaps a local design, typical of the rice-producing land of Bengal. This sealing contains also a legend in Brahmi characters in the arrangements of a semi-circle towards the bottom of the design. The legend has the symbols of two cult objects, *viz.*, *nandipada* (taurine) at the beginning and conch-shell at the end. The former is a mark of *Śaivism* and the latter of *Vaishṇavism*. The sealing appears to contain the legend *Jitāmittra bhad(r)agu(ptasya)*. The sealing contains on the reverse, marks of small fibres and rib of something like a plantain leaf on which it was placed and stamped. The letters show characteristics of the late 3rd and early 4th century A.D.[1] In the same trench (No. 5) two more clay sealings were found in 1940-41. One (No. 1624) which was picked up from the previous years' dump is bobbin-shaped in appearance and bears *Devanāgarī* characters of the Pala period. It appears that the same legend ending in (*Deva*—?) *pala* has been repeated intervened by rosette designs. The first two (?) letters of the legend have become very indistinct and do not give satisfactory reading. The second sealing of this trench shows only the symbols of the tree in railing and traces of a few Brahmi characters which are very indistinct. This comes from a depth of 17.26 ft. (B.D.L.).

Another clay sealing came out of Trench 8. This also shows the symbol of tree in railing and some indistinct characters. It is plano-convex in shape.

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[1] The reverses of coins Nos. 8. and 9 from Taxila show *five* stems springing from a railing. They bear some likeness with the Bangarh rice plants which bear far better details and workmanship, Arch. Sur. Rep., 1914-15, Plate XXVIII, Nos. 8, 9.

The letters of the sealing show a close resemblance with those of the tribal coins. The letter 'j' agrees with the same used in the Kulūta coin of Vīrayaśaḥ (1st century A.D.). Allan : Cat. of Indian Coins, Br. Mus., p. 158, Pl. XVI.4. The letters 'd' and 'bh' also agree with those used in the Panchala Coins of Bhadraghosha (*Ibid*, p. 197, Pl. XXVIII.3).

The legend is not fully clear and the above reading is a tentative one.

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The best and most distinct sealing (No. 2070) of the season (1940-41) was discovered in Tr. 9 from a depth of 1.50 ft. from the datum line. This clay sealing also contains a plant within railing with a stalk bearing a full-bloomed flower at the top, and an inverted conch-shell at the beginning and a *svastiḳa* symbol at the end of the legend of which the letters are arranged in the order of a semi-circle at the lower part of the sealing. The writing shows the characteristics of the Brahmi script of the 1st cent. B.C. to 1st century A.D. [Pl. XXIV(b)4]. The reading runs thus :— *Chhatagahasa śamana vilalasa.*[1]

This sealing was found very close to the terracotta moulded plaque (No. 2071) containing the figure of a female or Mother Goddess of the Sunga style [Pl. XXI(b)2]. Their association is also helpful in the matter of dating.

Uninscribed terracotta sealings bearing some symbol (animal figure) also used to be prepared at Bangarh. Such a sealing bearing the figure of a bull in motion has been discovered at a depth of 12. 33ft. (B.D.L.) in Tr. 5. The execution of the figure is full of life and vigour. The reverse of the sealing does not appear to bear any sign of its being fastened with anything for dispatch elsewhere. It was probably used as a token for some religious purpose. Because the *nandipada* (taurine) symbol in some sealings described elsewhere, and figure of bull in some terracotta plaques found here, go to show that the bull was very likely regarded as specially sacred or a cult object by the people of ancient Koṭivarsha.

Antiquity No. 1682 is also a plano-convex clay sealing. It contains trees in railing. Traces of very faint writing are found below the above symbol but the script is extremely worn out and at present it is not possible to make out any thing out of it. The find-spot is Tr. 8 and level 6.90 ft. (B.D.L.).

No. 2069 is a small sealing of burnt clay of black colour. This also contains something like a palm tree in railing and a legend on either side of the symbol. The left hand side is completely indistinct and the right hand side shows the first two letters as *gova*. . . . The rest is illegible. The letters are like those of the 1st century B.C. The find-spot is Tr. 5, level 17.26 ft. (B.D.L.).

No. 488 is also a clay sealing. The letters are completely gone and nothing can be made out of it at present.

PERSONAL ORNAMENTS

BEADS

The bead has been one of the most favourite objects of personal decoration of men and women from the remotest antiquity down to the present day. Mohenjodaro and Harappa show a variety of beads which actually were used by the prehistoric people and which have been recovered in course of digging in those places. The nature of beads also may be studied on the person of the terracotta figurines which were decorated with the objects. Some types change in course of time but some do not. This latter variety has continued for a remarkable length of time and hence does not offer opportunity for proper dating except with the help of some other data. For instance, Cornelian beads of barrel or globular shape have been found at Bangarh. These specimens are often met with among the finds from prehistoric as well as historic sites in India. The study of beads has not yet been exhaustively made in this country with regard to their origin, development and technique, etc., in so far as they relate to India. It is not the proper place to deal here with the question of the growth and development of this object. The excavation at Bangarh has recovered a good number of beads of various materials and shapes. Terracotta has played here as elsewhere, a prominent part in the making of beads [Pl. XXXIII(b)3-5]. Three varieties, namely (1) globular, (2) plano-convex and (3) barrel-shaped, are generally found here. The purpose of some of these terracotta objects was undoubtedly the decoration of the person of the poorer class of people. Some of these so-called beads were probably used as net-sinkers as supposed by some scholars. Some of these objects again specially the plano-convex variety were perhaps used as spindle whorls. They have one side flat and the other end round or tapering—a type which conveniently suits the purpose of a spindle whorl. These objects are mostly of black colour and heavy weight with narrow hole. These terracotta objects have been found from the surface down to the fourth stratum. The so-called spindle whorls also have been picked up from all these strata of the different parts of the site. This may be taken as a proof that spinning was a favourite pastime in some cases and necessity in others, among the people of successive periods beginning with Maurya-Sunga age down to the Pala times at Bangarh.

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[1] The letters *t, g, s, ś, n, v,* and *l* very closely agree with those found in the Ayodhya stone inscription of Dhanadeva. Ep. Ind , Vol. XX, p. 57.

The legend means—" *of Śramaṇa Virala, an inhabitant of chhatragṛha.*" Chhatragṛha appears to be a place name, which has not yet been identified.

Metal for personal ornament is a rarity here. A variety of stones was used for the purpose of making beads. Of these, Cornelian, plays a very important part. Chalcedony, quartz, marble (No. 1390) agate and jade, etc., also were used as the materials for beads. Black stone (No. 1691), and deep green stone with red spots (blood stone) (No. 1566) and red stone (jasper) (Nos. 1641, 1665) are also found among the beads (Pl. XXXII).

Glass and some paste are also met with among the materials meant for the beads (Nos. 1367, 1371, 1532, etc). Copper and shell also are found (though rarely) to be used for the preparation of beads here.

Bangarh provides a good number of shapes of beads. Of these globular, barrelled, flat-round (flat-circular), flat-barrelled, oblong and round diamond-cut forms are frequently seen. The diamond-cut variety is particularly met with in association with the fourth stratum or the Sunga period.

Statistics of beads here at Bangarh shows that the flat-round bead of stone is a common object of the Sunga period. Another peculiarity namely artificial white paints encrusted in net design on the surface of stone beads are also frequently seen here in the fourth stratum. The Sunga level is also strewn over with globular and round diamond-cut beads of stone. Beads are very common and also are found in a large number in the level from 14 ft. to 20.25 ft. (B.D.L.).

The study of beads found at Bangarh and elsewhere shows that this ornament has not very much changed in shape since the days of the Indus valley civilisation. Of the personal ornaments, beads form the largest number at Bangarh. They are of various materials, sizes and shapes.

Bangarh appears to be poor in gold, and so far as the beads are concerned, no gold bead has yet been discovered in course of excavation.

The number of beads goes on increasing as we go deeper, and finer and more interesting beads are found there. The number of globular beads is largest in number. Of these again the specimens of chalcedony form the majority, some being plain (Nos. 1576, 2145, 2078, 2140, 2135, 2139, 2067, etc.) and some with white artificial bands for decoration (Nos. 1659, 1670, 1694, etc.). Then comes a good number of globular cornelian beads of different sizes (Nos. 1395, 1459, 2123, 1727, 2054, 1582, 1759, etc.).

The art of making the stone beads is found to have attained a high degree of efficiency in the third, fourth and fifth strata particularly in the fourth and fifth, as the beads are more varied and beautiful in these levels. The materials used for this object at these strata are also different. A number of stones, *viz.*, cornelian, quartz (crystal), milky quartz, chalcedony, agate, chalcedonic agate, jade, blood stone, jasper, amethyst and marble, etc. are among the materials for beads in these strata.

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The art of applying white paint in designs in beads is a special technique in the fourth and fifth strata (*cf.* Nos. 1487, 1670, 2063, 2127, 2160, etc). The paint was probably applied first on the body of the bead which was then heated; and thus the paint became a fast colour (or *pucca*). The stone beads found at Bangarh were drilled from both sides. This fact may be tested in the beads which are transparent. Because the perforation is not in a straight line all through; borings were done from both the sides and they meet at the middle point in a curved line (*cf.* Nos. 1695, 1734, 2062, etc.).

The following are the details of only a few typical instances of the large number of beads found at Bangarh[1] :—

Serial No.	Material	Shape	Size in inch	Locus	Level	Reg. No.
1.	Amethyst	Long hexagonal	0·6 × 0·2 × 0·3	Tr. 5	– 16·46	2051
2.	Cornelian	Oblong	0·4 × 0·2 × 0·1	Tr. 9	– 17·58	1798
3.	Chalcedony	Long barrelled (hexagon)	0·8 × 0·3	Tr. 5	– 17·66	2082
4.	Chalcedony (painted white design)	Flat-barrelled	0·8 × 0·3	,,	– 18·06	2127
5.	Jade (blood stone)	Globular diamond-cut	0·3 (dia.)	,,	– 19·10	1671
6.	Do.	,,	0·4 ,,	,,	– 18·90	1665
7.	Do.	,,	0·4 ,,	,,	– 16·90	1634
8.	Quartz	,,	0·4 ,,	,,	– 19·70	1695
9.	Agate	Globular	0·6 ,,	,,	– 20·21	2160
10.	Chalcedonic agate (painted white net-design)	,,	0·3 ,,	,,	– 17·06	2063
11.	Jasper	Flat-barrelled	0·4 × 0·3 × 0·1	,,	– 9·25	1436
12.	Do. (Pl. XXXII)	,,	0·4 × 0·3 × 0·1	,,	– 9·25	1485
13.	Cornelian (painted white design)	Barrelled	L. 0.6. dia. 0.3	,,	– 11.0	1487
14.	Agate (painted white net-design)	Globular	0·6 (dia.)	,,	– 20·21	2160
15.	Milky quartz (painted white net-design)	,,	0·4 ,,	,,	– 18·75	1670
16.	Chalcedony	,,	0·5 ,,	,,	– 15·90	1578
17.	Milky quartz	,,	0·3 ,,	,,	– 19·26	2139
18,	Marble	,,	0·4 ,,	,,	– 16·60	1591
19.	Cornelian (Pl. XXXII)	,,	0·4 ,,	Tr. 9	– 3·25	2073
20.	Chalcedony (Pl. XXXII)	,,	1·1 ,,	,,	– 18·20	1873
21.	Jasper (Pl. XXXII)	,	0·4 ,,	,,	– 9·47	2182
22.	Cornelian	,,	0·4 ,,	Tr. 5	– 18·36	1655
23.	Quartz	,,	0·4 ,,	,,	– 10·96	1632
24.	Chalcedonic agate	Flat-circular	1·0 ,,	,,	– 17·66	2083
25.	Do.	,,	0·3 ,,	,,	– 13·06	2004
26.	Jade	Barrelled	Ht. 0·5 dia. 0·3	,,	– 16·56	2076
27.	Do.	,,	,,	,,	– 17·36	2120
28.	Chalcedony	,,	L. 1·0 dia. 0·7	Tr. 9	– 1·12	2037
29.	Glass (Green)	Flat-barrelled	0·3 × 0·2	,,	– 11·56	1988
30.	Glass (Blue) (Pl. XXXII)	Globular	0·2 (dia.)	,,	– 17·06	2060
31.	Glass (Light blue)	,,	0·3 ,,	,,	– 12·56	2010
32.	Glass (Blue) (Pl. XXXII)	,,	0·4 ,,	,,	– 6·31	1371

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[1] Mr. Benkataraman, M.A. of the Geological Survey of India kindly helped me in identifying these stones.

BANGLES

Bangles come next in the list of personal ornaments. These were made of copper [Pl. XXXIII(b)12], shell, paste and, terracotta [Pl. XXXIII(b)2]. Glass also was used for preparing bangles.

RING

Rings made of copper, glass, paste [Pl. XXXIII(b)6] and terracotta have been discovered in course of excavation.

AMULET

A gold amulet in two fragments [Pl. XXIV(b)2] was found in Tr. 5 in 1938-39. The fragments bear some signs one of which shows resemblance with a sign inscribed in a clay sealing [Pl. XXIV(b)1] discovered in the same trench and in the same season. They came almost from the same level. But the signs cannot be connected with any of early Indian characters.

COPPER AMULET

A copper amulet or talisman (No. 2109) was brought to light from a level of 16·76 ft. (B.D.L.) in Tr. 5. The amulet measures 1″ in length and 0·4″ in diameter.

PENDANT

The gold pendant (No. 1558) (dia. 0·3″ ht. 0·3″) which came from Tr. 5 in 1940-41 from a depth of 11·90 ft. (B.D.L.) is really a very fine piece of work. The level and workmanship both agree to attribute it to the Sunga period. This ornament shows a design of a chain bordered by beads. The study of the designs on the pendant requires the use of a microscope for the proper understanding of the workmanship. It is a remarkable piece of evidence showing to what height the art of the goldsmith was carried at Bangarh even in 2nd or 1st century B. C.

COLLYRIUM STICK

A good number of small copper sticks of various lengths and rounded on both the ends has come out from different levels [Pl. XXV(a)]. It appears that this object was a favourite houshold article of the Bangarh people. Probably these objects were used for cosmetic purposes. This thing made, of course, of bell metal, bronze and brass, etc. is used by the Indian ladies for applying cosmetics or collyrium to their eyes even to-day.[1] Details of some of the Bangarh cosmetic sticks are given below :

Reg. Nos.	Size in inch	Level	Locus
1427	4·8″ × 0·2″	7·90 ft. (B.D.L.)	Tr. 5
1449	6·5″ × 0·3″	9·45 ft. ,,	,,
1463	4·4″ × 0.2″	9·70 ft. ,,	,,
1507	3·7″ × 0·1″	12·80 ft, ,,	Tr. 9
1564	5·2″ × 0·1″	15·10 ft. ,,	Tr, 5
1589	3·7″ × 0·3″	16·30 ft. ,,	,,
1851	5·0″ × 0·2″	8·28 ft. ,,	Tr. 8

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[1] Excavations at Harappa and Mohenjodaro have brought out a large number of such copper sticks. These sticks seem to be very favourite and important household articles both in prehistoric and historic periods. They were undoubtedly used for applying collyrium to the eyes. The great poet Kalidasa also mentions of sticks for application of collyrium.

Cf. Vilocanaṃ dakshiṇamañjanena Sambhāvya tad-vañcita-vāma-netrā ।
Tathaiva vātāyana-sannikarshaṃ Yayau śalākām-aparā vahantī ॥ —*Raghuvamśam,* VII, 8.

COPPER AWL

A number of copper awls has been unearthed in various stages of the excavation. They differ from the collyrium sticks only in having sharp and pointed ends either one way or both the ways. The latter are rounded on the ends.[1] [Pl.XXV(a).]

SILVER

A silver rod (No. 1750) ($2\frac{1}{2}''$ long, $\frac{1}{5}''$ broad) square in section was discovered in Tr. 9 from a level of 17·16 ft. (B.D.L.). Some ornament was probably meant to be made out of it. But it was left unfinished for some reason or other.

IRON IMPLEMENTS AND WEAPONS

The limited scope of the excavations at Bangarh even proves that this place was not poor in implements and weapons of war as well. Nails, chisels, awls, knife, dagger, spear-head and sword have come from different trenches and various levels. A few of them are detailed below :

Reg. Nos.		Size in inch	Locus	Level
1029	Nail	3·0″ × 1·2″	Tr. 5,	9·56 ft. (B.D.L.)
1432	,,	3·25″ × 1·1″	,,	9·36 ,, ,,
1453	,,	2·2″ × 0·6″	,,	9·76 ,, ,,
1462	,,	3·5″ × 0·8″	,,	7·80 ,, ,,
1623	,,	7·5″ × 2·5″	Tr. 8,	7·48 ,, ,,
1225	Chisel [Pl. XXV(b)4]	6·0″ × 1·5″ × 0·5″	,,	5·56 ,, ,,
1117	Awl [Pl. XXV(b)1]	7″ long × 0·5″ thick	,,	5·61 ,, ,,
1396	Knife	3·7″ × 1·0″	Tr. 9,	9·57 ,, ,,
1045	Dagger [Pl. XXV(b)2]	7·4″ × 1·25″ × 0·25″	Tr. 6,	12·16,, ,,
2026	Spear head	9″ × 3″	Tr. 5.	15·06,, ,,
1332	Sword (with mid-rib) [Pl. XXV(b)3]	8·5″ × 1.5″ × 0·4″	Tr. 8,	7 32 ,, ,,

TERRACOTTAS

Gaṇeśa (No. 1287). This interesting figure of Gaṇeśa ($4\frac{3}{4}'' \times 3''$) comes out from a depth of 5.59 ft. (B.D.L.) in Tr. 8. Apparently it is a find of the 3rd stratum. But this terracotta figure of four armed Gaṇeśa appears to possess characteristics of the Pala art. This image bears the peculiarities that its trunk is turned towards the right, a feature which is found in a stone image of Gaṇeśa on the south-eastern wall at Paharpur (Bengal), of an earlier period, but was not ordinarily current in contemporary Bengal, though similar device may be visible in some images in South India. The Bangarh figure is very crude. He is seated on a pedestal with both his legs resting below his pot-belly but not touching each other. He wears a crown on the head and bangles in the arms. The upper right hand appears to hold something like rosary (akshamālā) and the lower right a lotus ; the upper left arm is broken and the lower left rests on the knee [Pl. XX(1)] (*cf.* also Memoir. Arch. Sur. No. 55; Excavations at Paharpur Pl. XXXII (d) No. 17).[1]

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[1] A large number of similar copper awls has been found at Harappa and Mohenjodaro excavations also. This shows that this object was favourite with the people of the prehistoric as well as the historic periods at different parts of India.

T. C. PLAQUES

The following two are interesting surface finds. Both belong to the Pala period.

Plaque No. 3 (6″×5″) is a fragment of the torso of a figure which from its attitude appears to be the portion of some Buddha figure with his right hand near the chest [Pl. XX(3)]. The modelling of this figure reminds one of the Paharpur terracotta plaques.

The other plaque (No. 1029) ($5\frac{1}{2}''\times 5''$) shows a fishing scene. A man of robust physique is standing in knee-deep water with the upper part of his body bent forward catching a fish from water by both the hands. A basket is seen hanging on his back for the purpose of keeping the fish there. The indication of water by means of wavy lines is beautiful. The modelling and expression of the scene is quite vigorous [Pl. XXII(b)2].

No. 1106. This plaque belongs to a separate class unlike the ones already described. It contains a slim male figure with dhoti for his lower garment the folds of which are very well executed. The figure holds a long staff by his left hand. The find-spot is Tr. 5, – 12.80 ft. below the datum line. The plaque is fragmentary and measures $4\frac{1}{4}''\times 2\frac{2}{3}''$.

T. C. MOULDS

No. 2106. A fragment of a terracotta mould ($4\frac{1}{5}''\times 3\frac{3}{5}''$) was discovered in Tr. 5 at a depth of 16.76 ft. from the datum. The specimen, although broken, is highly interesting [Pl. XX4(a, b)]. It contains a female figure standing on a decorated cushion or seat. The lady carries a garland of flower in her right hand and a crane (*Sārasa*) is found pecking at her girdle with its long bill on the left side. A few loose flowers appear to lie between her feet. She wears a peculiar tunic the border of which looks like a ring around her legs just above the ankles. She also puts on bracelets, rows of girdles and anklets. The position of her feet and modelling of the lower part of the body is quite comparable with the female figure from Basarh reproduced in Pl. V, fig. 16 (Coomaraswamy, His. Ind. Indo. Art, and Pl. 25 (Coomaraswamy, Ipek).[2] A lady carrying a garland of flowers and associated with a crane does not seem to be connected with any religious worship. She may be a representation of some amorous figure or Rati. The mould seems to be a local production, the artist being truly alive to the condition of marshy land of Bengal, portrays a native bird (crane) in the plaque. Considering the style as well as the find-spot, the plaque (rather the mould) may be placed in the 2nd century B.C. This figure may be compared with the female figure of the late period with a bird (? Peacock) to her left, found in a stone door-jamb from Rajmahal now exhibited in the Patna Museum (Arch. No. 10396).[3]

A terracotta mould (No. 1475) (2·97″×1·32″) [Pl. XX (b)2] has come out of Tr. 9 from a depth of 12.85 ft. (B.D.L.). The mould was meant for preparing casts of a female figure probably for religious purpose. The figures were very likely used as votive offerings and after the worship, they were hung on the wall by means of a cord passing through a hole at the top of the plaque. In fact, a cast (No. 1523) of this mould has been discovered in the same Trench (No. 9) at a depth of 13.55 ft. (B.D.L.) [Pl.XX.2(a)]. The cast has been found broken into two fragments. The figure bears bracelets in both the arms; and necklace, girdle and anklets are also in their proper places. The hair is parted and falls over both the shoulders in two masses. The figure seems to have some sort of hair-dress (or crest) in between the two masses of hair. The figure appears to have something like a head gear or veil over her head without, of course, hiding the face. A ring except the anklets around the legs is probably the end of the tunic or a skirt of diaphanous muslin. The figure is standing just like others described elsewhere with both her hands resting near the loins. The figure is on the whole graceful.

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[1] *Cf.* also Gaṇeśa with trunk turned towards his right in Alice Getty's " Gaṇeśa " Plate VII, Figs. (a) and (b) which were found on the carved pillar at Minakshi Temple, Madura.

[2] Compare the Nandangarh figures Nos. 13 & 16, Plate XXIV, Arch. Sur. Rep., 1936-37, which are ascribed to the Sunga period by Mr. N. G. Majumdar, as also a Kosam T. C. female fig. (No. T. 841) with a crane by her right side of the Sunga period exhibited in the Asutosh Museum, Calcutta University.

[3] This reference has been kindly supplied by Dr. J. N Banerjee.

T. C. MOULDED PLAQUES

A terracotta moulded plaque [Pl.XIX(a)] in two fragments Nos. 1597 & 1598 (6¾″×2½″ both together) was found at a depth of 16 ft. from the datum line in Trench No. 5. It contains in relief a female figure with a bird (parrot) in her right hand as well as (probably a duck, *haṁsa*) on the right side and a deer on the left of her legs. A scene of a lady with a parrot (the vehicle of the god of love) in a Mathura railing pillar is now found in the Lucknow Museum (Agarwala—Mathura railing pillars R. L.—Vol. II, No. 3. fig. 5). The pose and decoration etc., of the Bangarh figure show a distinct Sunga style. Her medallion and the ear-studs are of the shape of the rosette. (The medallion and its position in the necklace is quite comparable with that found in the Rajasan and Mathura figures of the Sunga period (figs. 58 & 59, Pl. XVII. Coomaraswamy. His. Ind. & Indo. Art). A similar medallion is found below the breast of Goddess Chulakokā in the Bharhut railing (Majumdar—Guide to the Sculptures in the Indian Museum, Part I, Plate VI. C). Such a figure in stone with a bird (parrot) on her hand belonging to a late period is found in the collection (No. 233) of the Asutosh Museum, Calcutta University. In Sanskrit literature parrot generally symbolises love and *haṁsa* (or duck) whiteness or purity. Does deer convey the idea of affection here ? Is this figure indicative of love, affection and purity ?

The figure is extremely graceful and highly in agreement with the conception of Indian beauty. Her body is slim, waist narrow and composition delightful. In Kalidasa we find *tanvī* (slim), *madhye kshāmā* (narrow waisted), *nimnanābhi* (of deep navel) etc., [Meghaduta II (Uttaramegha) 21] are used in connection with the description of the ladies of ideal beauty.[1]

The head dress of the figure under discussion is very elaborate and consists of two rows of rosettes. Some thing like a beautifully arranged braid with upturned end resting on her left shoulder adds to the loveliness of the figure. Her girdle (*mekhalā*) of jewels shows two kinds of motifs *viz*. chain and bead. She wears a number of bracelets in each arm. Her left hand is placed on the girdle or on the hip (akimbo). This peculiar motif is found in some other terracotta moulded plaques of Bangarh bearing female figures (mentioned elsewhere) discovered from a higher level, as well as in the terracotta from Mathura (Coomaraswamy, Ind. Indo. Art., fig. 57). This characteristic is met with in contemporary art as well as in some terracotta and lithic representations of the Kushan period. This plaque like many others discovered here bears a hole at the top for suspending by means of a cord on the wall.

The plaque No. 1399 (Fragment, 3·05×3·62) representing a standing female figure in the centre attended by a female figure (with folded hands ?) on either side is an interesting piece of discovery from Trench No. 9[Pl.XXI(b)3]. The level of the find is 10.27 ft. (B.D.L.). The central figure wears a beautiful crown (or *Karaṇḍa mukuṭa*) on her head and prominent ear rings (*Saṅkhapatra kuṇḍala*) in her ears and girdle around the waist. Her hands are resting on the hips (*kaṭihasta*) each making almost a right angle with the elbow. The attendant figures also appear to wear head-dress and ear ornaments. The head of the central figure seems to be within a circle (*śiraścakra*) which has got traces of decoration near the border. The central figure with two attendants decidedly proves that she is a goddess (of Fortune?). This statement is reinforced by the fact that the circular mark around her head is decidedly a halo. This plaque just like similar others discovered at Bangarh was meant for suspending, as there is a hole at the top for this purpose. The lower part of the plaque is missing and there is no means of knowing whether she had any lotus under her feet like similar terracotta figure standing on a lotus under an umbrella with two attendants on two other lotuses found at Lauriya Nandangarh. (Arch. Sur. Rep. 1936-37. p.50. Pl.XXIV, figs. 11, 16). This figure in association with the halo (or nimbus) which is generally believed to have its origin in the Kushan period may be attributed to the 2nd century A.D. This supposition is strengthened by the find at the same place at Bangarh of a fragmentary terracotta plaque (No. 1415) bearing only two feet of a figure. The feet are placed and decorated exactly in the same manner as those of the Kaṇishka statue at Mathura (Coomaraswamy, His. Ind. Indo. Art, Pl. XVIII, fig. 65).

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[1] *Cf.* the description of *nyagrodhaparimaṇḍalā* in Dr. J. N. Banerjee's Pratimā Lakshana (p. 23) and the quotation in the Śabdakalpadruma from a late work Śabdamālā—stanau sukaṭhinau yasyā nitambe cha viśālatā |
madhye kshīṇā bhaved yā sā nyagrodhaparimaṇḍalā. ||

Plaque No. 1400 (fragment, 3.10″×3.25″) represents a human (male?) figure mounted on a horse in motion. [Pl.XXI(b)4] The horse has got the necessary bridle and decorated saddle but does not seem to be provided with stirrup. The rider has got ear-ring (or *Kuṇḍala*) and head-dress. Similar rider on horseback is represented in the scenes in Bharhut railings also. (*cf.* Majumder's Guide to the Sculptures in the Indian Museum, Part I, Pl. IV *a* and *b*). This terra cotta plaque is also provided with a hole at the top for suspension by means of a cord. Almost all the plaques of early period show such holes. The findspot of this antiquity is Tr. 9 at a depth of 10.27′ from the datum line, and it may be ascribed just like antiquity No. 1399 (above) to the early Kushan period. The upper portion of another terracotta plaque (No. 1413) (three fragments only) has also come out from the same spot and the same level. The available pieces give only the head of a female figure and portions of the two hands holding a lotus stalk in each of them. The plaque being very badly damaged, mention of further details is not possible. But it goes without saying that this figure also belongs to the same period and same school of art as the aforesaid instances (Nos. 1399 & 1400). Although it is not possible to assert with highest amount of certitude in the present damaged condition of this plaque, may it be suggested that the figure may be a representation of a goddess (Lakshmi)?[1]

A number of terracotta plaques Nos. 1529 [Pl.XXI(b)1], 2071, 2007, 2041, 1504 [Pl.XXI(b)6] 1515, 1261, (1262, 1264, 1288), etc., which come up from a comparatively low level in various part of the mound with a little variation in details among themselves, from a class by themselves. They were prepared probably by similar if not the same moulds. The main figure was very likely cast out of the same mould and was finished later on by necessary addition and alteration by means of the craftsman's hands. From a study of the plaques it is clear that this particular figure and style was very popular at ancient Bangarh. The figure has her right hand upraised near her right ear while the left one is seen resting on the girdle. The figure has got her hair divided and arranged into two braids over the head. In between the two braids something like a crest or headdress is visible. She wears a number of bracelets in both the arms, a thick bracelet and rows (generally four in number) of beaded girdles together with dhotis for the lower part of the body and scarf for the upper. The scarf is hanging loosely down the right shoulder from over the head just like a veil, though the face is uncovered. The folds of the apparel are very conspicuous. Her left hand is engaged in holding the folds of the garment near the girdle. The ear ornaments are studs of the shape of rosette. Another interesting feature is that fan-shaped decoration is seen on either side of the head of the figure. Is this a kind of decoration or has this any connection with the development of halo or nimbus around the head of the divine beings ? This class of terracottas was very likely meant for votive offering. They may be the representation of the mother goddess. A member of this class (No. 2071) has been found in association with a terracotta sealing of about the 2nd or 1st century B.C. (No. 2070). The navel of the figure is very prominent like that found in the figures at Bharhut and such other places of the Sunga period. The figure seems to be wearing a tunic leaving the prominent navel uncovered.

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[1] The preserved upper portions of the above three plaques (Nos. 1399, 1400 and 1413) show a semi-circular tendency which is not found in any other plaque of this place

No. 1414. Although the fragment of this plaque (length 3·23″) [Pl.XXI(b)5] bearing the upper portion of the female figure, belongs to the same style of workmanship, the modelling of the face (which is longish-round, fleshy and smiling) and details of ornaments are different. The right hand of the figure, though broken, shows a tendency of coming downward making an angle with the elbow. The ear ornaments (*viz.* the studs) of the figure under discussion are much larger and heavier than those of others. The studs are hanging down on the necklace over the shoulders. So far as the facial modelling and details in ornaments are concerned, this figure comes nearer to the figure No. 34, mentioned by Coomaraswamy in Ipec (1928) Tafel 5. The find-spot of the Bangarh figure is Tr. 9 at a level 10.47 ft. below the datum line. This figure may be attributed to the period of transition from the Sunga to the Kushan age. The hair is parted and arranged into two beautiful braids with a prominent crest at the top. To the left side of the figure are seen some weapons (?) (ayudhas) (*aṅkuśa* and *vajra* etc ?). Such features are found in some of the Rajghat (Benares) terracottas recently discovered near the Kashi Rly. Station in course of excavation.

No. 1510. The fragment (5·37″ × 3·59″) of a terracotta plaque discovered from Tr. 9 at a level of 12.95 ft. (B.D.L.) bears the lower portion of a female figure with her right hand upraised and left akimbo (kaṭihasta) like other figures in majority of the plaques. But there are some technical differences in details between them and the present one. The latter unlike others stands on a full bloomed lotus in the recess made by a pilaster on stepped basement on either side of the figure. She wears a number of bracelets in each arm and a heavy anklet in each leg, and three strands of girdles of a long barrelled bead alternated by two short beads. The costume which has a hanging flap in front, leaves the prominent navel uncovered just like that in most of the terracotta and lithic figures of the Sunga period. The style and execution of this piece of art place it to the 2nd century B.C. The figure is no doubt the representation of a goddess probably Lakshmī. [Pl. XIX(b)].

A number of plaques containing animal figures namely elephant, bull, monkeys (group), etc., come from different trenches and various levels.

No. 1089 shows a running bull (3·03″ × 3·03″) of robust body with upraised tail. The find-spot is Tr. 5; 8.12 ft. below the datum line. [Pl. XXII(a)6].

No. 1039 (2·77″ × 2·95″). from the same trench and 9.41 ft. below the datum contains a similar bull in motion but not in a running attitude. [Pl. XXII(a)2]. The modelling of both the above figures is vigorous and lively. The third bull is found in the plaque (No. 1684) [Pl. XXII(a)1], which comes up from Tr. 8 ; 7.68 ft. B.D.L. The feet of this bull also are executed in such a way as to express motion. This plaque is circular in shape, while the above two are square. Another plaque No. 1260 with the figure of a bull was found in Tr. 8; 6.38 ft. B.D.L. Its execution is rather crude. A terracotta sealing (No. 1083) containing the figure of a running bull was discovered from a lower level in Tr. 5 [Pl. XXIV(b)6]. The frequent occurrence of bull in plaques and sealing might suggest that bull was probably a cult object. The plaque No. 1044 containing an elephant has been discovered from Tr. 5; 9.37 ft. B.D.L. The nature of the execution of this figure is almost like that of No. 1684. But a better specimen (No. 1082) has come up from the same trench but from a lower level (11.23 ft. B.D.L.). This elephant holds something like a tree (plantain?) by its trunk and carries something on its back. The plaque is almost a square one ($2\frac{3}{4}'' = 2\frac{1}{2}''$) and the execution is good [Pl. XXII(a)5].

Besides the above specimens, an interesting plaque (No. 1038) containing the figure of a dwarf was discovered in Tr. 5, from level 9.41 ft. (B.D.L.). [Pl. XXII(a)4] The figures discussed above belong to the same school of plastic art and considering the boldness of execution they may roughly be ascribed to the transitional period between the Sunga and the Kushan.

No. 2098. This square terracotta plaque containing a big monkey accompanied by its young ones is very interesting. A young one is seen riding on the back of its mother and another between her fore legs. Such a scene is common all over even to-day. The execution and style as well as the level of the find spot (Tr. 5; 15·06 ft. below the datum line) go in favour of ascribing the plaque to the Sunga period. This plaque reminds one of the art depicted in the scene of the Mahākapi Jātaka illustrated on the Bharhut railing.[1] The Bangarh plaque was probably used for decorative purposes or as a toy for children. [Pl. XXII(a)3].

TERRACOTTA MEDALLION

Besides terracotta plaques referred to above, a number of terracotta circular medallions were unearthed in course of digging from various levels. Of these, two specimens deserve special mention. One (No. 766) (dia 2.93″) is a peacock with its tail and feathers turned upward and bent down towards the left. The peacock is in a couchant attitude, has tuft on the head and holds a snake in its beak. A rosette (which is generally used by the artists of the Sunga period to decorate an empty space in terracotta plaque, etc.) is seen between the tail and back of the bird. Stylistically the medallion is a production of the Sunga period. [Pl. XXXIII(a)6]. The other medallion [Pl. XXXIII(a)13] contains the design of a cart on it. The design is beautiful and well executed, but the artist appears to lack in the sense of perspective. Both the wheels are shown flat by the side of the cart. A cart design is found also on the Bharhut railing, but there the execution is rather different from this. (Cf. design No. 95, Bharhut Gallery, Indian Museum, Calcutta).

Terracotta female figures :—There has come out a class of terracotta female figurines in round from different trenches and different levels. The head is missing in most of the cases; and the figurines are very crude and of primitive nature. (Dr. Kramrisch calls them "ageless type" *i.e.*, this class of antiquities "persists essentially changeless"[2].) This class of objects has in fact been found at Bangarh in course of excavation in different levels—higher as well as lower. But no perceptible change in the figures is seen at various stages of finds. In this class again two subdivisions may be made. Some figures are seen squatting with a ring like girdle around the waist formed of holes made by the tip of the finger [Pl. XXI(a) 2, 7]. The navel is indicated by another conspicuous hole. (No. 1165 from Tr. 5, level 5.28 B.D.L.). The body appears like the trunk of a tree with prominent breasts, and necklace of chevron design. Such figures have got hands gradually tapering to a point where fingers are shown by means of scratches only. Bangles are seen in the arms. The other variety is found in a standing posture. This variety wears girdles of the chevron design, sometimes of one strand [Pl. XXI(a) 3] and sometimes two [Pl. XXI(a)5][1]. In this variety also the navel is prominent. A fragment of the figure shows a row of circular designs stamped below the girdle, probably for the purpose of decoration [Pl. XXI(a)3]. The levels of the findspots of this class of figures are from 4.90 ft. B.D.L. to a little over 13 ft, B.D.L. These figures probably served the purpose of mother goddess or were used as dolls for the play of the children.

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[1] Majumder—Guide to the sculptures in the Indian Museum, Part I, Plate X (*a*)

[2] Journal of the I.S.O.A. (Jun.-Dec., 1939, pp, 23f)

Terracotta human figurines both male and female have been discovered at various stages of excavation. To this class mainly belong some heads in round most of which were first pressed into the mould and then finished by hand.

No. 1792 which comes from 8.36 ft. (B.D.L.) in Tr. 8. is a female figure head with a long nose and incised eyes having indication of pupils. The headdress is a peculiar one with decorative incised lines. The mouth is very small. [Pl. XXI(a)2].

No. 1984 is the head of a female (ht.2·1″). It has got a decoration on the forehead, ear studs and incised eyes with indication for pupils are also prominent. This specimen was discovered from 11.56 ft. B.D.L. in Tr. 5. and may be attributed to the Sunga period. [Pl. XXI(a)6].

Terracotta head No. 1585 (ht. 2·8″) is a very interesting specimen So far as the facial expression and modelling is concerned, it may be compared with the figurines No. 14 and No. 16, from Pataliputra illustrated in Tafel 2 in Ipek for 1928 by Coomaraswamy. Its style and execution is like that of the Pataliputra figurines except in head-dress. The Bangarh head is thin and shows depression on the back so that it was pressed against the mould. This head was picked up from 15.40 ft. (B.D.L.) in Tr. 5 and may be ascribed to the Maurya or early Sunga period. [Pl. XXI(a)1].

No. 1701. This head was found 20.36 ft. below the datum line in Tr. 5. The head is very badly damaged. The fragment is $1\frac{1}{3}''$ in height. It is likely that the head is that of a female figurine. This specimen belongs to a very early period—early Sunga or Maurya period.

No. 1741. This is the fragment of a terracotta human figure in round consisting of its right foot (L. $3\frac{1}{2}''$)on a round (?) pedestal. The softness of execution with faithful indication of nails of the toes is remarkable in this specimen. The figure might have had some connection with religious worship. The fragment is black inside with dull red colour on the surface. It comes from the level—7.43 (B.D.L.) Tr. 8, and belongs to the Gupta period (3rd stratum). The technique agrees with that of other terracotta figures of this period found elsewhere in India.

Antiquity No. 1079—a terracotta head (ht. 2·4″) of a female with the horn-like arrangement of hair and marks of decoration on the forehead is very interesting. The figure wears a round ear-stud. Her mouth is very small and eyes are marked by incision (Tr. 5. level—12.13′). The figure belongs to the Sunga period.

TOYS

The children of ancient Bangarh were not deprived of the enjoyment of playing with various kinds of toys. Terracotta birds, animals, rattles, [Pl. XXXIII(a)5] marbles, [Pl. XXXIII(a)2,4] carts, chariots and dolls, etc. were provided for their innocent entertainment. Although some of these things are essentially meant for the children, still the art betrays the skill and workmanship of the craftsman of that time.

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[1] Cf. No. 1986 (Tr. 5. level--11.56 B.D L.)

Toy Carts

A good number of terracotta animal heads [Pl. XXIII(a)2-8] with upper portion of the body only as well as a few specimens of birds [Pl. XXIII(a)1] with piercing hole from right to left have been found in course of excavation at different levels. Some wheels [Pl. XXX(a)11, 14] also have come out from various depths. These things go to show that the children of Bangarh as elsewhere, were fond of this object of game. The carts apparently show that they used to be provided with two wheels only and the head or neck of the animals or birds has got a hole to allow a cord to pass through for pulling the vehicle. Besides birds, the variety of animals used for this purpose at Bangarh comprises of, ram,[1] bull, buffalo, horse and the like. [Pl. XXIII(a)]. The specimens of birds are rather scarce and those found cannot be properly identified.

The use of toy carts, chariots, birds and animals was also a common thing in remote antiquity in Egypt, Mesopotamia, Harappa, Mahenjo-daro, Chanhudaro and other prehistoric sites in Sind and the Panjab.

As regards the bird chariot, No. 1138 from Tr. 5; 7.64 ft. (B.D.L.) and No. 1863 from Tr. 8; 9.16 ft. (B.D.L.) are the good specimens. These birds have got tufts on their heads.

The horse chariots and ram chariots are also found in abundance. Of the former variety, No. 1968 from 12.1 ft. (B.D.L.) in Tr. 8 with lozenge-shaped eyes and incised decoration and No. 1112 from 13.71 ft. (B.D.L.) in Tr. 5 with stamped wheel design and scratchings on the mouth and tuft on the head [Pl. XXIII(a)5] are the good examples. These particular designs stamped on the figurines[2] are generally the indications of a very early period, *i.e.*, the Sunga period or thereabout. The level of the findspot also is in close agreement with the assertion. Antiquity No. 1847 which comes from 8.37 ft. (B.D.L.) in Tr. 8 with stamped diamond-shaped eyes and long face is also probably a specimen of the horse chariot [Pl. XXIII(a)6]. This appears to belong to a later period. Antiquity No. 1097 from 11.42 ft. Tr. 5 (B.D.L.), with stamped wheel designs on face and head and scratchings on horns [Pl. XXIII(a)7], and No. 1263 from 13.7 ft. (B.D.L.) Tr. 5 with stamped eyes and wheel designs over the head and scratchings on the horns [Pl. XXIII(a)3] are good examples of ram chariots. These antiquities come from lower levels and distinctly bear the stamps of the Sunga age. No. 1202 (badly damaged) picked up from 6.66 ft. (B.D.L.) Tr. 8, is also probably an example of ram chariot [Pl. XXIII(a)8]. Its workmanship and level both assign it to a later date. Antiquity No. 1501, which comes up from 12.85 ft. (B.D.L.) Tr. 9, is a crude animal figure [Pl. XXIII(a)4]. It may be either a horse or a deer. This also belongs to the Sunga period. The figure has got diamond shaped stamped eyes. This design as well as the wheel design are stamped on other parts of the body of this figure. The stamped patterns have their exact analogies in figures from the Sunga levels of Basarh and Bhita. Such examples are found in Lauriya Nandangarh (Arch. Sur. Ind. Rep. 1935-36) and Ahichchhatra also with the designs of wheel and leaf, etc.

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[1] The ram cart is one of the commonest types at Kosam. The Bangarh specimens seem to be similar to them. They belong to 1st to 2nd cen. B.C or A.D.

[2] " Ahichchhatra (mod. Ramnagar, Dt. Barelly) has these in plenty and they belong to the Sunga period." This information has kindly been supplied by Rao Bahadur K. N. Dikshit, Director General of Archæology in India,

Nos. 1366 and 1376 which come from 4.83 ft. and 5.35 ft. (B.D.L.) respectively in Tr. 9 are good specimens of animal chariots but these animals cannot properly be identified as they are very crude. They belong to a later date.

Apart from chariots, there were other terracotta objects which served the purpose of toys for the children. Of these, the figure of horse plays a very important part. Antiquity No. 1594—the head of a horse with bridle and separately fixed round eyes comes from 16.30 ft. (B.D.L.) in Tr. 5 and is very interesting. No. 1599 which was discovered from 17.36 ft. (B.D.L.) in Tr. 5 and No. 1726 from 17·00 ft. (B.D.L.) in Tr. 9 (both headless) are provided with saddles and appear to be the torsos of horse. These and some others of this variety were used by the children as their play-things. These objects cannot be ascribed to a date later than the Sunga period. Antiquity No. 1612 from 8·79 ft. (B.D.L.) in Tr. 9, appears to be the figure of an elephant and belongs to a comparatively late period.

Terracotta birds were also used as ordinary toys. No. 1754 from 11·97 ft. (B.D.L.) in Tr. 9 is a specimen of that kind.

TERRACOTTA MISSILES

A large number (more than 160) of terracotta objects mainly of the shape of the torpedo has been discovered from various levels in Tr. 9. [Pl. XXIII(b)1-6]. In this trench at some particular spots these objects are the major finds. Sometimes they came in lots. The levels vary from 1·82 ft. (B.D.L.) to 21·99 ft. (B.D.L.). These objects may be grouped into three classes. Some are (1) barrel-shaped with pointed ends, (2) some globular and (3) others are heart-shaped, (*i.e.*, these have one broader end bearing a vertical groove made by the pressure of the fore-finger before burning and the other end tapering to a point). These peculiar objects which were very highly burnt and extremely hard were in all probability used as missiles against the enemy. They have been mainly found near a rampart wall and were probably stored up as defensive weapon for the protection of the city. The grooves on these objects were probably meant for placing the fingers in tact while gripping. These torpedo-shaped objects are on average 4″ in length and 2·3″ in diameter. It is to be noted that two such objects (No. 1662 and No. 2088) have come out from 18·60 ft. (B.D.L.) and 17·96 ft. (B.D.L.) respectively from Tr. 5. These are stray finds in a very low level in Tr. 5. This kind of object is not known to have been discovered from any other site.

MARBLES

Terracotta marbles coming from various levels prove that the children of different ages of ancient Koṭivarsha were also fond of terracotta marbles as plaything like modern children of various countries. Here we get marbles both plain and decorated with incised designs. (Cf. 1408, 1411, 1476, 1477, 1478) [Pl. XXXIII(a)2, 4; (b)7].

FINIALS

Finials are sometimes used on the top of the houses in Bengal even to-day. The early inhabitants of Bangarh did not lack in this taste also. They used terracotta finials. The finials commonly found in Bangarh are hollow inside and are divided into several parts by encircling grooves. The topmost part is tapering to a point. Antiquity No. 1628 [Pl. XXIX 36] comes out from the level—17·96 ft. (Tr. 5) and No. 1451 from—9·0 ft. (Tr. 5). From the study of the find-spots of the finials, it appears that this object was required for use at different periods of the life of the city, and the earliest (so far discovered) at Bangarh might go back to the Sunga period.[1]

SPINDLE WHORL

One of the most essential objects of the ancient socio-econonic life in India was the terracotta spindle whrol. Bangarh was no exception to it. This thing was discovered from different levels in course of excavation. Some of them were round and some plano-convex. (Cf. No. 1497, which is round, and No. 1430 plano-convex.).

TERRACOTTA WHEELS

The social environment requires various enjoyments and entertainments in different stages of life, both for the males and females—for the children and the aged. Ancient Bangarh or Koṭivarsha did not lack in this respect also. The children were provided with animal-carts and bird-chariots made of clay. Wheels of different designs have been discovered from various levels.

In Tr. 5, terracotta wheels (whole and part) have come out from 3rd and 4th strata (Nos. 1600, 1602, 1629). The earlier specimens generally show a central hole with protuberance on either side and radiating lines therefrom containing dots at intervals. The other types are provided with a central hole only on plain surface. [Pl. XXXIII (a) 10, 11, 14].

FLESH-RUBBER

Evidence of the use of terracotta flesh-rubber is also found here from the 3rd stratum (Tr. 8). These objects (Nos. 1619, 1793) with uneven surface were used for cleaning the body. Similar flesh-rubbers have been found in some other historic and pre-historic sites in India.

STOPPERS

Terracotta stoppers have been brought out from various levels in almost all the trenches dug here. Two types of stoppers have been found at Bangrah, *viz.*, (1) with round top and and tapering bottom and (2) flat-top and tapering but not always pointed bottom. Some specimens are dark burnt and some reddish.

Strainer. (No. 2040).

A terracotta object roughly of the shape of a leg, the wider side containing five holes and the narrower only one, has been discovered in Tr. 5 at a depth of 16.2 ft. from the datum line. This peculiar thing was probably fitted in with a pottery vase like a spout to be used as strainer. This kind of object is rarely seen elsewhere.

POTTERY

At Bangarh five definite strata have so far been available, with varieties of antiquities associated with each of them. Of these, the pottery which is a sure index to various strata, deserves a scrutinising study. Being fragile in texture and easy to manufacture, potteries constitute the bulk of archæological material on a site. When broken they are thrown away and used in large quantities to raise the level. They are never liable to be carried away to a considerable distance. They are consequently the surest guides about the period of any given layer of occupation and the distinctive forms, shapes, colours, decoration and other characteristics thus become typical for the period to which they relate. Coins, jewellery and other valuable objects may be looked upon as family heir-looms and lose their value as an index to the age of a stratum, but pottery as explained above is an almost infallible guide.

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[1] Rao Bahadur K. N. Dikshit, Director General of Archæology in India, has kindly informed me that in Ahichchhatra (also Mathura) definite evidence has been found about the use of the finials in the 2nd-3rd Century A.D.

The lowermost stratum which is so far regarded to be the fifth stratum is represented by a ring well (Tr. 5) the top of which is 20 ft. below the datum. The antiquities, particularly the pottery objects found below the fourth stratum and in association with the ring well are to be regarded as belonging to the fifth stratum. From the study of the lay out, foundation and level of the doors and floors of the houses as also the level of the drains and top of the wells, etc., with objects associated to them, the stratification at Bangarh may roughly and tentatively be made in the following way :—

1st stratum from surface to 1½ ft. B.D.L.

2nd ,, ,, 1½ ft. to 4½ ,, ,,

3rd ,, ,, 4½ ,, to 8½ ,, ,,

4th ,, ,, 8½ ,, to 14½ ,, ,,

5th ,, ,, 14½ ,, to 20 ,, ,,

The above estimate may be found workable on an average but there might be cases during the transition period which may show signs of being attributed to either side of the line of demarcation. So far as pottery is concerned an attempt has here been made to start with the earliest materials of this kind from the 5th stratum and make a study of the gradual development and changes in upper strata of the later periods.

Stratum V

So far as the fifth stratum is concerned it shows two fragments of very highly polished black pottery (No. 1902—Tr. 9—18·25 ft. B.D.L.) typical of the Maurya period. Such polished pottery is supposed to have been found at Ramnagar (ancient Ahichchhatra) in Bareilly district also. A very beautiful handled jug (No. 938 18 ft. B.D.L.) (measuring 5·38″ in Dia. 7″ in Ht.) just like a glass one of modern days is also a very interesting find of this stratum [PL. XXVII. (b. 1), XXIX. 37].

Other pottery objects for domestic purposes comprise of dishes of curved rim of grey colour (Dia. 11·10″, Ht. 2·09″). [PL. XXIX. 33] or of splaying ribbed rim of black colour (Dia. 14·05″, Ht. 1·20″), [PL. XXIX. 38] pan with ring-handle (measurement after reconstruction—Dia. 11·30″ and Ht. 3·48″.) [PL. XXVIII. 2], pottery jar with a flange (Dia. 5·29″. Ht. 3·20″) [PL. XXX. 64], two black pottery bowls (one measuring 4.95″ in diameter and 2·50″ in height) [PL. XXX. 65] and the other (3·5″ in diameter and 2″ in height) a narrow-mouthed vase with straight neck and incised horizontal parallel lines on the shoulder and neck (Dia. 4·45″, Ht. 3·70.″) from 22′ below datum [PL. XXIX, 35, PL. XXVII.(b)8], narrow mouthed bottle-shaped vase with incised horizontal parallel lines in the lower part of the body (Dia. 3·65″; Ht. 5·30″.) from 21′4″ below datum [PL. XXIX. 34, PL. XXVII(b)11] to mention a few specimens discovered in this stratum.

Stratum IV

So far as this stratum is concerned the pottery objects do not show any remarkable departure in shape and size from those of the fifth stratum. One thing should always be borne in mind that

Indian pottery types in some cases do not show much change from the days of the prehistoric period down to the present day. But some types have totally changed. Here we are concerned with the historic period, and it is apparent that the pottery specimens of the fourth stratum are almost the same as those found in the fifth, with the only difference that evidence of polished black pottery is very rare in the fourth stratum. Application of red slip over the burnt red pot is found in this stratum also. The fourth stratum is marked by occurrence of grey pottery as well. Specimens of grey pottery are found in later age, *i.e.*, in upper strata also at Bangarh, but they differ from the earlier ones in so far as they show a very light blackish slip at least in some parts of their body. The pottery objects of this stratum comprise of medium vases with round bottom and a rib near the shoulder and a projecting rim at the top (No. 1133. Dia. 8″, Ht. 5″) [PL. XXVIII. 12], vase with round body and curved neck (No. 1125, Dia. 4.70″ Ht. 4.60″)[1] [PL. XXIX. 19], round vase with wide flange[2] (No. 1344. Dia. 7.28″, Ht. 3.60″) [PL. XXIX. 26], vase or tumbler with convex bottom and slightly curved neck and incised parallel lines near the shoulder and base (No. 1060, Dia. 4.90″, Ht. 4.80″ from 8.91 ft. B.D.L., [PL. XXIX. 23], and tumbler with long neck (No. 1149, Dia. 5.60″, Ht. 5.62″, level 8·93 ft. B.D.L.) [PL. XXIX. 22]. For storage purpose the squat vessel with wide mouth (No. 1099, Dia. 9.20″ and Ht. 6.52″), was probably used [PL. XXVIII. 13]. The people of this period used dishes with splaying rim (No. 1137, Dia. 11.45″, Ht. 1.90″.) [PL. XXVIII. 15] and curved rim (No. 1517, after reconstruction Dia. 13.18″, Ht. 1.63″) [PL. XXVIII. 16], (No. 707, Dia. 8·0″, Ht. 1·85.″) [Pl. XXIX. 30] and cups (No. 1037, Dia. 5.50″, Ht. 1.80″), like modern ones. Of the saucers Nos. 1069 (Dia. 6.70″, Ht. 2.55″) [PL. XXIX. 25], 1218 (Dia. 4·90″, Ht. 2.80″) and 1134 (Dia. 5.05″, Ht. 1.90″, PL. XXIX. 32) are the typical examples. The narrow mouthed vases with bulging belly (No. 1677, Dia. 6.75″, Ht. 6.25″). [PL. XXVIII. 14] (and No. 1207, Dia. 4.40″, Ht. 4.30″) are also very interesting specimens. Miniature pottery of various types was also used at this time. No. 1246 (Dia. 2.35″ Ht. 2.50″.) [PL. XXX. 55] may rightly be compared with No. 1149 [PL. XXIX. 22] in so far as the shape is concerned. Some of the bigger specimens have got their prototypes in miniature pottery [*Cf.* 1470, PL. XXX. 54 with 1099—Pl. XXVIII. 13 and 1524 PL. XXX. 59 with 1975, PL. XXIX, 20, etc.]. The inhabitants of ancient Bangarh (Koṭivarsha) also used pottery crucible for melting metals for their jewellery [*Cf.* No. 1531, Dia. 2·90″, Ht. 3.60″, PL. XXIX. 27]. Making of pottery vase of red colour and very thin fabric was also a remarkable achievement of this period [*Cf.* No. 1108 after reconstruction Dia. 3.33″, Ht. 2.42″, PL. XXX. 53]. A miniature squat cup with straight sides [No. 1241, Dia. 3.0″, Ht. 2.0″, PL. XXX. 52] is also an interesting find.

Stratum III

Let us now come to the third stratum and examine the types of pottery used by the people connected with this layer. A kind of round bottomed vase with curved rim is a very common type in this stratum [*Cf.* Nos. 1132 (Dia. 6.25″, Ht. 3.75″, PL. XXIX. 17), 1352 (Dia. 4.10″, Ht. 4.30″, PL. XXVIII. 11) and 1156 (Dia. 4.45″, Ht. 4.23″, PL. XXVIII. 9)]. These vases may be compared with No. 1125 (PL. XXIX. 19) of the 4th stratum. Pottery vase with bulging belly bearing incised lines and curved neck was also made for domestic uses (No. 1259, Dia. 7.20″ Ht. 3.80″, PL. XXVIII. 6). The third stratum is also remarkable for spouted jugs (No. 1331, Dia. 6.55″ Ht. 6.11″, PL. XXVIII, 8) and No. 1616, (Dia. 8.0″, Ht. 6.3″, PL. XXIX. 18) cooking pot with curved neck and round bottom (No. 723, Dia. 10.25″, Ht. 5.0″, PL. XXVIII, 10), water jug with long neck and narrow mouth (No. 1131, Dia. 6.70″, Ht. 8.70″, PL. XXVIII, 7), squat saucers with wide mouth (No. 1257, Dia. 8.90″, Ht. 3.30″, PL. XXVIII. 4) and feeding cup with a spout (No. 1550, length 3.10″, Ht. 1.40″, PL. XXVIII, 5). Of the small and miniature pottery, a number of varieties has been unearthed from Bangarh. Of these, round bottomed vases (No. 1325, Dia. 3.30″, Ht. 2.90″, PL. XXX. 50 and No. 1135, Dia. 2.20″, Ht. 2.25″, PL. XXX, 51), squat cups with straight sides (No. 1243, Dia. 3.30″, Ht. 2.75″, PL. XXX, 48), squat vases with wide mouth and grooved body (No. 341, Dia. 2.66″, Ht. 1.90″, PL. XXX, 46), and with a rib on the belly (No. 326, Dia. 3.20″, Ht. 2.80″, PL. XXX, 45) and lids of various types (No. 1296, Dia. 3.66″, Ht. 1.80″, PL. XXX. 49; No. 1340, Dia. 3.85″, Ht. 1.50″, PL, XXX. 43 and No. 1224, Dia. 2.95″, Ht. 0.80″, PL. XXX. 47) are noteworthy. A pottery object with wide sides and narrow hollow interior (No. 1148, Dia. 2.80″, Ht. 3.15″, PL. XXX, 44) is also an interesting find. It was probably a stand or *ḍamaru* (musical instrument).

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[1] *Cf.* vase No. 1156 of the 3rd stratum, PL. XXVIII, 9.

[2] The interior of the vase without the flange appears like No. 1125. The flange like the cup was probably filled with water to prevent ants from entering the pot.

Stratum II

The second stratum of Bangarh presents us with potteries of comparatively large size. Colossal jars were used for the purposes of storage, etc., and fragments of these jars were discovered in course of digging. Pitchers for water also were used by the people of this period. Only broken parts were picked up in course of the excavation. The first and second strata, as I have already pointed out, had suffered the most at the hand of man and nature. Of the specimens which were found in this stratum, a cooking pan (No. 161, Dia. 11.25″, Ht. 3.45″, after reconstruction, PL. XXVIII, 2) and a squat vase with bulging belly (No. 181, Dia. 2.24″, Ht. 1.80″, PL. XXVIII, 3) may be mentioned here. Of the miniature pottery a grey vase (No. 241, Dia. 1.87″, Ht. 2.00″, PL. XXX, 40) with marks of black colour on the surface and another squat vase with narrow mouth (No. 1403, Dia. 2.35″, Ht. 2.85″, PL. XXX, 41) are very interesting.

Stratum I

On the first stratum the antiquities are very rare. Very small fragments of glazed or enamelled pottery were found copiously in major part of the mound. This kind of pottery was abundantly used during the Muslim rule. Hence the first stratum is supposed to be associated with the Muslim period. The peculiarities of this kind of pottery are that they show well burnt red colour inside the enamel coating which is in some cases blue and in some cases green. A cup (No. 17, Dia. 4.5″, Ht. 3.30″ after reconstruction, PL. XXVIII, 1) is an interesting specimen of enamelled pottery.[1]

BRICKS

Bricks generally play a very important part in determining the age of the buildings of the historic period. But unfortunately a detailed and comprehensive study of bricks has not yet been made in this country. Hence some prevalent sizes of bricks used at Bangarh for the construction of the buildings in successive stages are given below.

The structures of the first stratum were, as I have already remarked, built of brick-bats and bricks collected from the ruins of the earlier buildings; hence the materials used for the

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[1] In order to show the gradual evolution of the pottery types, we have started with the earliest specimens available at Bangarh and have come up to the Muslim period and finished with the glazed or enamelled pottery.

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constructions of the first stratum cannot be taken as belonging to the same age as the buildings. Consequently the results obtained by the study of those materials need not be laid down here. Moreover, the structures of this period are very scrapy and our knowledge about them is not yet perfect. Hence the usual sizes of the bricks of the 2nd, 3rd and 4th strata only are given here :—

Second stratum	Third stratum	Fourth stratum
(1) 8″×8″×2″	(1) 14″×10″×1½″	(1) 16½″×9½″×2½″ (used in walls of Tr. 5 & Tr. 8)
(2) 9½″×8½″×2½″	(2) 14″×9½″×9½″	(2) 17″×11″×2½″
(3) 9′×8″×2″	(3) 15″×11″×2″	(3) 18″×10″×2¼″
	(4) 15″×9½″×1¾″	(4) 18″×12″×2¾″ (used in Rampart wall)
	(5) 15″×10″×2″	
	(6) 15″×13″ (or 12″×3″)	

STONE OBJECTS

Bangarh was once very rich in stone objects of architectural and sculptural interest. But vandalism and private collections have robbed the site of ancient stone antiquities. The stone images and architectural pieces said to have been collected from Bangarh are mainly the production of the palmy days of the Pala period. Bengal could claim to have built an empire under the Pala kings who gave their liberal patronage to the all round development of the province including its art and architecture. Consequently the Bengal school of sculpture made its mark as a distinct entity in this period. Bengal being mainly alluvial, has practically no stone resources suitable for plastic art and stone had to be brought from the Rajmahal hills by water ways. This was made possible for the patronage of the rulers and the flourishing condition of the country under them. The names *Pātharghāṭā* and *Pātharpunja*, etc., bear testimony to this statement. For the scarcity of stone, Bengal from a very early time tried to give expression to her plastic art in clay and terracotta which is splendidly demonstrated at Paharpur, Mahasthan and Bangarh also.

The few stone antiquities which have been dug out at Bangarh are generally the finds of the Pala period with the exception of one or two which might go to the Gupta age. Some architectural pieces, *e. g.*, an *āmalaka* (crowning stone), a crocodile shaped gargoyle of grey sand stone and a decorated stone door-jamb latterly used as a door-sill [PL. XIV (a)] etc., are some of the interesting specimens discovered of the Pala period.

COINS

As is well known, very little coined currency was in circulation in Bengal in the Pala period and the upper strata at Bangarh are consequently blank in respect of coins. Two varieties of coins, *viz.*, punch-marked and cast, have been found at Bangarh, both coming from a lower level (about $8\frac{1}{2}$ft. to 21 ft.) The punch-marked coins are generally of silver and the cast coins are of copper. Of the former square, oblong, hexagonal and round shapes are found while of the latter the shape is more or less square and oblong. At Bangarh, Tr. 5, has brought out almost all the coins except one punch-marked silver coin of irregular shape which was found in Tr. 8 at 8·90 ft. below the datum line. Majority of the coins come from a level 14 ft. to 21 ft. (B.D.L.) and they were scattered over a wide area. So it may be presumed that these coins were in currency at the time to which this level would be attributed. Punch-marked and cast coins are usually believed to be the currency of the Maurya and Sunga periods.[1] From our study of the other antiquities of this level, we came to the conclusion that this level should be attributed to the Sunga period. The evidence of coins also confirms this to a great extent.

It is interesting to note that a copper object (No. 1432) of almost square shape bears three symbols one of which is a complete wheel and the other, part of the wheel (broken) and the third is like bag. [PL. XXIV (a) 16] Apparently it looks like a coin and is in a fragmentary condition. The punch marks are very deep. It was discovered in Tr. 5, 9·26ft (B.D.L.) and was probably used as a seal.

Punch-marked Silver Coins.

Serial No.	Register No.	Metal Size	Locus	Obverse	Reverse
1	552	AR round 0·55(dia)	Tr. 5. —10·0	(1) Sun (2) three-arched mountain with crescent (3) trefoil (?) (4) six-armed symbol of taurine, and arrow-head (5) indistinct	Bottle-shaped symbol Indistinct [Pl. XXIV (a) 2]
2	750	AR Hexagonal 0·53 (L)	Tr. 5. — 9·50	(1) Sun (2) six-armed symbol (taurine and arrow-head alternately) (3) mountain (?) (4) bull (5) triangle (with vertex shaped like three arches)	wheel [Pl. XXIV (a) 1]
3	1571	AR round 0·6(dia)	Tr. 5. —14·66	Indistinct	Indistinct [Pl. XXIV (a) 14]
4	1596	AR round 0·6(dia)	Tr. 5. —16·10	(1) Sun ; rest indistinct	Indistinct [Pl. XXIV (a) 13]
5	1854	AR 0·67×0·49	Tr. 8. —8·90	(1) Sun (2) bull (3) part of (six-armed?) wheel, rest indistinct	Blank [Pl. XXIV (a) 11]

Punch-marked Copper Coins

6	1432	AE 0·6×0·5	Tr. 5. —9·26	(1) Wheel (complete) (2) part of another symbol (broken and indistinct) (3) stand within curve	Indistinct [Pl. XXIV (a) 16]
7	1437	AE oblong 0·6×0·5	Tr. 5. —8·55	Three-arched mountain with crescent: rest indistinct	Indistinct [Pl. XXIV (a)]

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[1] According to John Allan punch-marked coins were current in 3rd and 2nd centuries B.C. "The period of circulation of punch-marked coins may therefore be put at the third and second centuries B.C.; that they continued in circulation later is most probable and that they may go back to the fourth century B.C. is possible."

—John Allan, 'Catalogue of the Coins of Ancient India'; p. lviii (60).

About uninscribed cast coins Allan says "They (cast coins) are usually found on the sites which yield punch-marked silver coins and are probably of the same period." *ibid*, p. lxxiv(85).

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Uninscribed Cast Copper Coin

Serial No.	Register No.	Metal Size	Locus Tr. 5.	Obverse	Reverse
8	1559	AE square 0·5×0·5	—14·71	Indistinct	Tree in railing; rest indistinct [Pl. XXIV (a) 6]
9	1561	AE square 0·6×0·6	—14·71	Indistinct	Tree in railing, hollow-cross [Pl. XXIV (a) 15]
10	2023	AE square 0·5×0·5	—15·06	Elephant (?); rest indistinct	Hollow cross, rest indistinct [Pl. XXIV (a) 5]
11	2090	AE square 0·5×0·5	—18·46	Indistinct	Indistinct [Pl. XXIV (a) 8]
12	2094	AE square 0·46×0·46	—18·79	Elephant facing left, standard (? indistinct) on left	Three-arched mountain on left on standard, tree in railing to right and taurine in between.
[1] 13	2112	AE square 0·5×0·5	—18·66	Taurine (?) elephant (facing left); symbol (?) indistinct, (standard)	Three-arched mountain with crescent, (below) hollow cross (on the right) tree in railing. [Pl. XXIV (a) 7]
[2] 14	2113	AE square 0·5×0·5	—17·86	,,	,,

MISCELLANEOUS OBJECTS

A very interesting discovery (No. 1707) was made in Tr. 9 from a depth of 16·58 ft. (B.D.L.) *i.e.*, more than 3 ft. below the findspot of the sealing (No. 1543) of the Sunga period. It is a yellowish flint celt 2·9″ long, 1·9″ broad and 0·8″ thick [Pl. XXXIII (a) 9]. This celt appears to be a production of the neolithic period. But this solitary and stray find of the prehistoric type was probably inherited or owned by some person of this place during the historic period and somehow subsequently found its way into the debris. This specimen being divorced from any other associated object of the prehistoric period should be very cautiously dealt with before attributing it to a hoary past. It may be compared with the neolithic celts found by Sir John Marshall in his excavations at Bhita (Dt. Allahabad). (A.S.R. 1911-12, Pl. XXXII).

WHET STONES

A few specimens of whet stones (Nos. 1846 & 2023) have been found here from different levels. Of these No. 1846 (8·6″ long and 3″ broad) has come up from a depth of 8·28′ (B.D.L.) in Tr. 3 and the other No. 2023 (3″ long and 2″ broad) from the level 35·36′ (B.D.L.) in Tr. 5. These objects were used for sharpening the tools of iron etc. The socket made for sharpening the implements is very prominent in both the above stones.

IVORY OBJECTS

A miniature ivory stick (No. 1019) with carved decoration is an object of the Pala period (2nd stratum) [Pl. XXXIII (b) 10]. Such things are sometimes used as a baluster in decorative objects.

Ivory Comb No. 792. This is fragmentary and is in a very fragile condition. It is apparently an object of the fourth stratum belonging to the Sunga period.

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[1] This coin agrees in many respects with the coin (No. 60) p. 91 of Allan's Cat. Ind. Coins.

[2] The coin is extremely fragile and consists of fragments.

Bone Objects

A number of bone awls has been recorded from different trenches and levels. They were probably used for making hole in leather or linen objects. Most of them come from Tr. 5. [Pl. XXXIII (b) 8, 9, 11, 12]. Details about them are given below :

Nos.	*Measurement*	*Locus*		
1576	2·0″×0·3″	15·70 ft.	(B. D. L.)	Tr. 5
2031	2·3″×0·3″	15·36 ,,	,,	,,
2046	1·7″×0·4″	16·16 ,,	,,	,,
2047	1·7″×0·4″	16·16 ,,	,,	,,
2048	1·8″×0·4″	16·16 ,,	,,	,,
2049	1·8″×0·4″	16·16 ,,	,,	,,
2105	1·9″×0·4″	13·26 ,,	,,	,,
2110	2·3″×0·3″	19·79 ,,	,,	,,
2118	1·8″×0·3″	17·06 ,,	,,	,,
2122	2·8″×0·3″	17·66 ,,	,,	,,

Plumbing Bob

An object (No. 822) of alloy (bell metal) with a ring at one end was discovered in Tr. 5 at a depth of nearly 13 ft. (B. D. L.). This thing was meant for suspending and was most likely a plumbing bob [Pl. XXXIII (b) 1].

Incised Medallions

A few flat circular black terracotta medallions with incised designs were recovered from comparatively low levels. One of the objects [Pl. XXXIII (a) 1] seems to bear the design of a half bloomed lotus and the other [Pl. XXXIII (a) 8] that of a jar with ornamentation.

Fragmentary earthenware crucible :—

A crucible (No. 1531) made of clay (the fragment measuring 3·55″ in length and 2·75″ in diameter) with pointed bottom was brought out from a depth of 12·66 ft. (B. D. L.).

CHAPTER V

Résumé

In the foregoing pages it has been seen that the trial diggings for some time in four successive winters from 1937-38 to 1940-41 at Bangarh have revealed some interesting evidences of the past history of this part of Bengal. The spade laid bare at a spot in Tr. 5 (which was selected for trial excavation) five regular strata of brick structures with objects associated with each of the strata. [Pl. XV(a)] The earliest of them might be ascribed to the Maurya or early Sunga period. The evidence of the earliest or the 5th stratum so far exposed is a ring well (dia. 2′5″) built of pottery rings of 2′5″ in diameter, $8\frac{1}{2}$″ in height and $\frac{1}{3}$″ in thickness at a depth of 20′6″ from the datum line. The well was cleared upto the water level or about 6 ft. below its top (or 27 ft. below the datum line). The

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minor antiquities are extremely rare at this level and the virgin soil is not far below. Consequently this ring well marks the site of one of the earliest civilised settlements of Bengal. This solitary discovery, however, solves only the problem of the drinking water of the people of Bangarh in the Maurya or early Sunga period and further excavation on a large scale at this level may reveal the mystery of the habitations of those people. This small scale trial digging has not yet furnished us with any information as to whether these early inhabitants built brick houses or *kachcha* buildings for their dwelling purposes. The fifth stratum here is likely to be associated with the Maurya period for the reason that the top of the well is at a considerable depth (about 8 ft.) from the foundation of the buildings of the fourth stratum which has brought out distinct traces of the Sunga period in the shape of a variety of small antiquities. Polished black pottery which is generally believed to be an object of the Maurya period has been found almost at similar or rather higher levels in the neighbourhood of this very trench (Antiquities Nos. 707, 779, 871, 940, 1088, 1108 etc.). Moreover the Mahasthan inscription[1] proves that Pundranagar (Modern Mahasthan on the river *Karatoyā* in Bogra district) was the seat of a Mahāmātra during the rule of the Maurya emperors. Whereas Pundranagar was in possession of the Maurya kings, it is not unreasonable to suppose that *Koṭivarsha* or modern Bangarh also came under their administration. The art of Bangarh of that period proves beyond doubt a well-established state of the society. The polished black pottery of this period reached a high water mark in the history of pottery in India. The pottery consisted of dish, bowl, cup, jug, pan, jar and vase, etc. [Pl. XXVII (b)—XXX]. But together with such artistic products from the hands of master craftsmen ordinary wares such as crude female figurines [Pl. XXI (a) 2, 3, 5, 7] were still produced which may perhaps be termed according to Dr. Stella Kramrisch "the timeless variety."

The Main Mound of Bangarh is surrounded by ditch, and earth dug out of the ditch was very probably used for building mud rampart walls at the beginning. That the city passed through various ups and downs is proved by successive changes and repairs noticeable in the recently excavated rampart wall. The wall near the present entrance to the mound from the road of the District Board has been exposed up to a very low level. This wall which has been exposed to the depth of 16.8 ft. from the datum line shows bricks of different sizes at different levels perhaps attributable to different periods. The wall, if dug upto a lower level, may show its predecessor probably an earthen wall or else the latter may form the solid core of the brick wall. Usually the beginnings of a city are modest and humble, and gradually its orbit extends and prosperity increases with the growth and development of trade and communications. The fourth stratum of Bangarh shows distinct signs of the prosperous condition of the town. The city had by then a brick built wide rampart wall (10·8″ wide). It had drains, cess-pits and residential buildings, made of burnt bricks of a very large size. We have got wells of the 2nd, 3rd and 5th strata and it may be assumed that more extended excavation is likely to lay bare wells of the 4th stratum or Sunga period as well. So far as the architecture of the ancient city of *Koṭivarsha* is concerned, the fourth stratum shows that the walls of the residential buildings as well as the cess-pools were made of single course of bricks (16½″—18″×9½″—11″×2¼″—3″) (Tr. 5.) [Pl. XV (a)]. The drains were also built of bricks ordinarily of the same size (Tr. 5 and Tr. 8) [Pl. XVIII (a)]. The structures of this age are more finely built than those of the third stratum where the walls are very thin and poorly built. In the third stratum (Tr. 8) we come across buildings of very extensive measurements, with 11 inches

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[1] Ep. Ind., Vol. XXI, p. 85.

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thick walls, *i. e.*, thickness equals to the width of a brick. The floor of the building of this stratum in Tr. 8, covers a vast area. Rammed concrete mixed up with lime is found at different places in connection with building of the floor. The extensive area covered by the floor probably marks the site of a large quadrangle by the side of some temple where people perhaps used to assemble for the purpose of religious, social or commercial activities. The quality and workmanship of the buildings is not as good as that found in Strata II and IV. The width of the wall in two small houses in Tr. 5, is exactly the same as that in Tr. 8. The construction of a pit (in Tr. 8.) Pl. [XV (b)] of the 3rd stratum is very nice. It is roughly like the shape of a basket at the top and gradually turns into a rectangular hollow at the bottom. This structure does not go upto the water level to prove itself to be a well nor does it show any outlet from it. So it may be suggested that it was a pit or a *kuṇḍa* probably used for depositing the used flowers etc., of the worship. Such *kuṇḍas* are seen even today in famous temples in Bengal and elsewhere to be used for the same purpose. That this area was the place of worship in the later age is proved by the find of the terracotta figure of Gaṇeśa [Pl. XX (1)] and the discovery of the foundation of a building which looks like a temple (Tr. 8) of the Pala period [Pl. XVI (a), (b)]. The fact that Bangarh was famous for prosperous temples etc., as quoted by the poet Sandhayakar Nandi also in the Ramacharita[1] has been referred to elsewhere in this report.

The rooms of the houses of this stratum are generally very small so much so that some of them could hardly have been used for dwelling purposes and might serve the purpose of the cess pit etc. Another remarkable feature of this stratum is that the structures of this stratum are generally associated with a good number of tiles, of which some are found with a groove and two holes for fastening by means of nails or a cord[2] and some with ridge in the middle. These tiles were used for covering the roof of the houses which used to stand on thin and small walls. The small rooms of this stratum were probably used as stores, kitchen and in some cases (*e.g.* in Tr. 8) residential quarters also. The buildings of this stratum can be supposed to belong to the Gupta age in consideration of the associated objects. The structural evidence so far discovered does not vouch for a high class architecture at this time in these parts of the site. So far as the construction is concerned the buildings of the fourth and the second strata are far superior to those of the first and the third. Mud was used for mortar in the structures of the fourth and second strata. The same material was used probably for some of the structures of the third stratum but evidence of lime and surki (concrete) is met with in the floor of some buildings of this stratum. The buildings of the first or uppermost stratum are very badly damaged and it cannot be definitely said as to what exactly was the composition of the mortar. But it may be supposed that the buildings of this period might have had lime and surki etc. for mortar.

The buildings of the 2nd stratum or the Pala period had a definite plan in so far as they have revealed themselves in course of excavation. The structures of this period comprise in rampart walls, compound walls, residential quarters, temples with ambulatory path and its enclosing walls, damp-proof granaries, bath-rooms, platform, ramp, drain and ring well etc. The size and shape of the bricks vary according to nature of works. For instance, wedge-shaped bricks were used in the ring well, while 8½″ × ·8½″ × ·2″ bricks were required for the construction of the lotus-shaped *kuṇḍa* in Tr. 5. The bricks of the ramp, platform and bathroom were also different.

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[1] Ramacharita, III. 9.
Brahma kulodbhavāṁ skandanagareṇa murchchhitāmitāpachiti(m)
tairati gurūtpa(lā)vāsair asvapnair-bhari(ta) śoṇitapurāṁcha.

[2] PL. XXIII(b) 7.

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The buildings of the Pala period had in some of them stone pillars placed on stone basement set on a few courses of bricks [Pl. XIV (a) (b)]. Such rooms have been found in three different parts with pillars lying in some of them. The pillars are square at the top and bottom and octagonal in the middle [Pl. XIV (b)].

The door-jamb, door-sill and lintel, etc. were made of stone and profusely decorated. Such a door-jamb measuring 10′10″×1′10½″×10½″ and containing decoration of the Pala period has been dug out in Tr. 5 [Pl. XIV (a)]. This door-jamb was made to serve the purpose of a door-sill when it became damaged at a later time; and this has been found in that condition. The male figure and the *Gaṇa* figure carved in this stone, show various kinds of ornaments for different parts of the body. A stone *āmalaka* also which is generally used at the top of the temple has come out in course of excavation and belongs to the Pala School of Art. The third decorated piece which very likely formed a part of the cornice has been found near the supposed temple in Tr. 8. That during the Pala period Bangarh was very rich in lithic art may be proved by the innumerable objects of art preserved at the house of the Maharaja of Dinajpur and elsewhere.

Bangarh was not only famous for plastic art in stone but was equally noted for the same in terracotta also. Bengal is particularly poor in stone, hence the plastic representation of this province tried to find out some other channel to give expression to her art and architecture, etc. Consequently Bengal artists took recourse to clay for giving form to their artistic impulses. This material was utilised for the full manifestation in the fields of art and architecture alike. The thousands of terracotta plaques unearthed at Paharpur are the vivid examples of the plastic art of Bengal during the Pala period. Similar enthusiasm was shown in architecture also. Bricks were made in such a way as to be shapedi nto, or to form part of flower, foliage, bird, animal or human figures or some other designs. The antiquities from Bangarh present a good collection of different motifs in bricks used for the buildings of the (second stratum or) Pala period. Some of the motifs are the conventional lotus, dentil, line-and-wave, lotus petals, creeper, lozenge-and-square, stepped-pyramid, creeper-and-leaf, design with a swan in the middle with the head of a demon in the centre, part of a design with parrot's head in the middle with lower part of a human figure, upper part (head) or the lower part of a lion, bricks forming parts of the figure of a lion as also one shaped into an elephant probably meant for a bracket, part of human face and various other motifs [Pl. XXVI (a) (b)]. These decorative bricks were essentially meant for the cornice, brackets and mouldings of the buildings. Terracotta plaques of the Paharpur type were also probably used for the decoration of the façade of the walls. But their number is very limited at Bangarh. So far as the plastic art is concerned the ancient people of Bangarh made terracotta figures and small plaques for religious worship and toys for children. They made mother goddess with highly decorative ornaments in plaques [Pl. XIX (a) (b); XXI (b) 1-3, 5-6] and also a crude variety in round [Pl. XXI (a) 2, 3, 5, 7]. Bull or *nandi* was also probably a cult object. Small plaques containing figures of bull [Pl. XXII (a) 1, 2, 6] and an uninscribed sealing with the figure of a running bull [Pl. XXIV (b) 6] and an inscribed sealing (No: 1935) with a taurine symbol testify to this statement. That Buddhism also had some influence over the people of this place may be found in the expressions *Bhutarakhitasa* [Pl. XXIV (b) 3] and *chhatagahasa śamana vilalasa* [Pl. XXIV (b) 4] inscribed in the sealings (No: 1543 and No: 2070, respectively). The former is a name seen in one of the Buddhist donors mentioned at the Bharhut railings and the latter is called a śamana (śramaṇa) which is a term for the Buddhist *monk*. Are the bull and *taurine* (nandipada) the representative symbols of Jainism? During the Pala period

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one of the iconic representations was, of course, *Gaṇeśa* (No: 1287) [Pl. XX (1)]. We have not yet come across any other antiquity here which can be identified with any iconic figure. The other representations are found either in relief or in the round. Of the former variety female figure or mother goddess or Yakshi forms the majority. In this class, two varieties are noticeable—one bears the characteristics of the Sunga terracottas found elsewhere in India and the other shows peculiarities and techniques of the Kushan period inasmuch as one of them bears a female figure with nimbus around her head. She is attended by a female figure on either side [Pl.XXI (b) 3]. It may be remarked here that it is usually believed so far that nimbus appears in the plastic art for the first time during the Kushan period. It may be mentioned that some other terracottas found in Tr. 9 and elsewhere in the main mound show characteristics of the Kushan period [Pl.XXI (b) 4] but no building is found associated with them as yet. Future excavation may reveal whether these are stray finds or there were regular urban settlements in this part of the country at that time as well.

Of the round type, some belong to the 1st century B. C. and 1st century A. D., while there are some which can aptly be ascribed to the Gupta age though their number is limited. Some of them show the characteristics of that age in style as well as in technique. A fragment of an arm, hollow inside, showing black colour and burnt husks inside was discovered in course of digging in Tr. 5. Such technique is found in some other fragmentary figures also.

I have already stated that of the fifth stratum very few antiquities except the ring-well has been found up till now. So a description of a life in that age will be out of place at this stage for obvious reasons. We can make an attempt to give a picture of life in successive stages on the basis of our study of the antiquities found at Bangarh and detailed elsewhere in this report.

- The people of the fourth stratum or Sunga period used to build brick-houses for their dwelling purpose and *pucca* drains for letting out water and cess pit for the deposit of dirty water. Water was probably supplied from the river Punarbhava and well also was perhaps provided for at places.[1]

The staple food of the people of this place, in all probability, was rice.[2] The males used the dhoti, scarf, and turban while the females used tunic, scarp and skirt. As regards ornaments, the fairer sex was in the habit of using beads of various stones (*viz.*, carnelian, milky quartz, chalcedony, amethyst, jasper, agate, jade and blood stone, etc.) [Pl.XXXI-XXXII] besides terracotta which was generally used by the poorer people; bangles of shell, glass, paste and terracotta, anklet and strands of girdles of jewels are also some of the other ornaments. Head gear and round pendant or *tāṭaṅka chakra*[3] for the ear and rosette-shaped pendant for the central place of the necklace were also in vogue. Round ear-ring was used by male members of the society.[4] Evidence of any other ornaments being used by the males is not yet forthcoming.

Spinning was practised on a large scale as is evident from the find of numerous terracotta spindle whorls. It may also be supposed that the diaphanous dress used to be worn by the rich and aristocratic people.

Bullock cart was used for the purpose of transport and conveyance [Pl. XXXIII (a) 13]. Journey was also performed on horse back [Pl.XXI (b) 4]. It may be pointed out that this part of the country was not devoid of the benefit of reading and writing. The inscribed clay sealings testify to t as also that Brahmi of the 2nd and 1st cen. B. C. was the script of the 4th stratum, and the language was *Prakrit*.

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[1] Wells have been found in 2nd, 3rd and 5th strata. So it may be supposed that 4th stratum also was provided with wells at places.

[2] A seal containing rice plant in railing has been discovered in excavation here. [*Cf.* Pl. XXIV (b) 5].

[3] Kalidasa—Kumar Sam., IX, 23.

[4] Compare the round ear-ring in the ear of the horseman in Pl. XXI (b) 4.

The legal tender of the time was the punch-marked silver and copper coins and also cast copper coins [Pl. XXIV (a)].

So far as the religion is concerned, the ordinary people appear to have worshipped a kind of female figurine—may be *mother goddess*. The local people were probably influenced also by the Jainism and the Buddhism. The cult objects *nandipada*, bull and conch-shell, etc. were held in high esteem by Bangarh people. These appear in their sealings and plaques, etc. [Pl. XXII (a) 1, 2, 6; XXIV (b) 1, 4-6].

Children also were not ignored by the ancients of Bangarh. Various sorts of toys, *viz*., miniature pottery, birds and animals, rattles, bird whistles, bird and animal chariots, carts and marbles of terracotta are some of these objects.

The arts and crafts particularly flourished in the age of the fourth stratum. The evidence of goldsmith's craft reaching a very high level of fineness and skilfulness is manifest from the gold pendant. The potter also contributed his share of efficiency in making pottery of fine fabric and finishing it with the glossy black polish [Pl. XXX (60)]. Other cheaper varieties of pottery and colossal jars [1] with thicker fabric also used to be made along with the black pottery. The terracotta art which has found Bengal its favourite home since the dawn of civilisation in this soil, reached the high water mark. Numerous plaques and images, etc. recovered in course of digging are sufficient to bear evidence to this statement.

As regards other minor arts--ivory and bone were used for making comb, awl and some decorative articles. Copper was generally selected for cosmetic sticks, and hard awls. Weapons of war and household implements were made of iron [Pl. XXV (b)]. Countless terracotta missiles of the shape of torpedoes were probably used at times for the defence of the city [Pl. XXIII (b) 1-6]. A huge number of this object has been found heaped up from a high level down to a very low one at a place near the rampart or city wall. It may be that one of the city's defensive posts lay in this side.

From the Sunga period the city gradually passed through the Kushan to the Gupta period. Apart from a few terracotta objects no other thing of that period can yet be traced at Bangarh. At least no regular structure can yet be ascribed to that age. The next or the higher or third stratum may be assigned to the Gupta period which is manifest from the find of terracotta and other objects in association with it. The peculiarity of the buildings of this level is that the houses were built of thin walls with roofs of tiles. Another class of massive structure of this period was found in Tr. I. But that was probably meant for some other purpose. Ordinarily the thin rickety variety was more in general use. The special associated objects of this stratum are the tiles of the thatch or roof for the house [Pl. XXIII (b) 7], stamped pottery with the design of lotus and conch-shell, [Pl. XXVII (a)] and the oval shaped round bottomed pottery vases of medium size etc. [Pl. XXVII (b) 2, 4; XXVIII, 9, 11]. The fourth and third strata do not show any remarkable evidence of stone work.

On the contrary the second stratum shows a luxurious use of Rajmahal stone for the plastic art in Bengal. Art and architecture both claimed their due share in transforming themselves in stone in this period. Along with stone the legitimate share of clay and terracotta was not ignored in this land of terracottas. Stone and terracotta went hand in hand for the art expression in Bengal. Large sized terracotta plaques bearing various figures and depicting the flora and fauna of Bengal were made for the decoration of the walls and façades of the temples and important buildings of the Pala period. Paharpur shows endless varieties of designs in terracotta. Evidences of this art are also forthcoming in a copious number from other parts of Bengal. Instances of this kind are available at Bangarh also. Bricks containing or shaped into various decorative designs have been recovered in a large number from the Pala level [Pl. XXVI (a), (b)]. These were mainly meant for the purpose of architecture. That terracotta was used for making iconic figure also is manifest from the find of the image of *Gaṇeśa* from the second stratum [Pl.XX (1)].

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[1] Fragments of heavy colossal jars of thick fabrics have been discovered from various levels of the fourth stratum.

Evidence of pottery is very meagre at this age. Because, natural and human agencies played havoc with them. But from what has still remained, we notice that colossal or storage pottery was one of the popular objects of that time. The decorative designs on pottery objects used to be incised in this period also. The incised pottery vase with the design of fish, etc. is the living testimony to this statement [Pl. XXII (b) 2]. Now the terracotta toys show a phase of decadence to some extent. And glass takes the place of stone in the case of beads. Shell and glass were used for bangles and some other ornaments. Coin is conspicuous by its absence particularly in the second stratum. But the people used to live in brick houses of finely finished walls with spacious door ways which were provided with stone lintels, sills and jambs. Provision for fixing stone cornice and *āmalaka*, etc., was also made. Halls with stone pillars and pillar bases were the special characteristics of this age at Bangarh. It may be supposed that wood also was used for beam and other building purposes, but due to the moist climate of Bengal its evidence has become scarce.

Then we pass on to the first or uppermost stratum which will synchronise with the Muslim period. Of this period, evidences are very few. Being at the top, they have suffered more than anything else. But almost the whole surface except the south western part is strewn over with glazed pottery of blue and green colour. They consist of dish, saucer, tumbler, cup, vase and miniature pottery, etc. These objects were very well burnt and show a very good red colour below the enamel coating. During the early part of the Muslim period also Bangarh did not lose all her importance as may be seen from a variety of beautiful pottery objects, but gradually and slowly she was moving towards decay and finally became the abode of the wild beasts and ferocious animals. The once prosperous city of Koṭivarsha—the pride of Bengal had to remain unknown and buried for a long time till recently when the pick and the spade under the auspices of the Calcutta University for four seasons have brought only a fringe of her past glory to the notice of the civilised world. Much yet remains to be done to unfold the story of her unrecorded eventful past.

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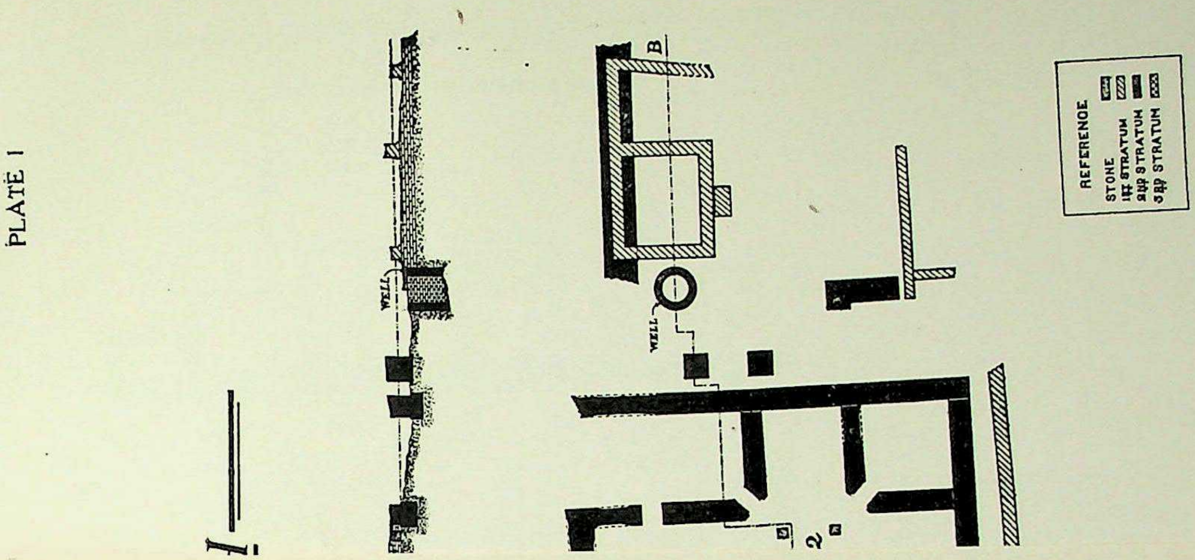
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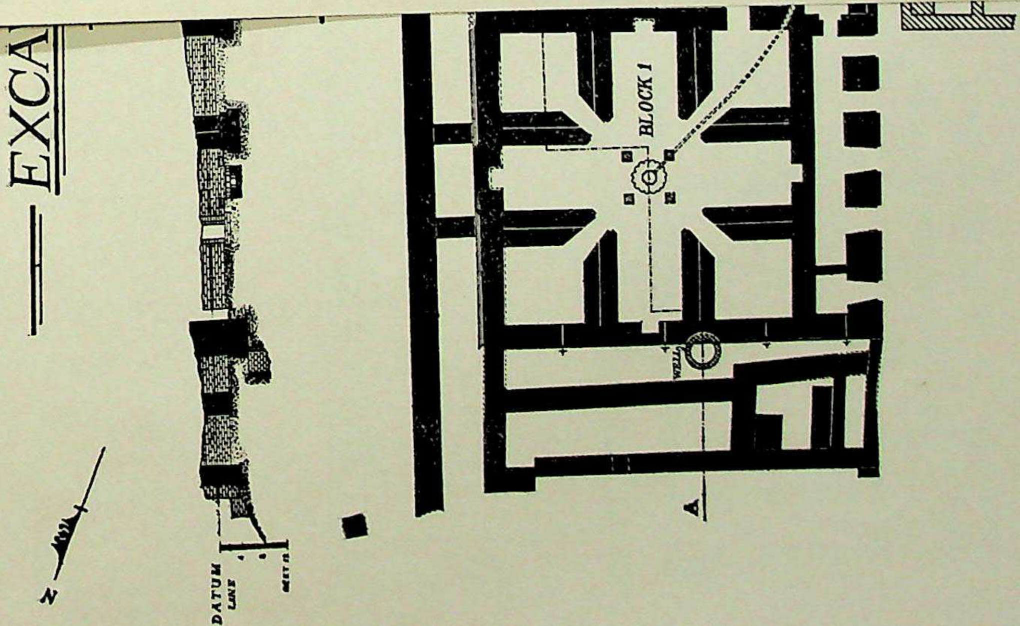
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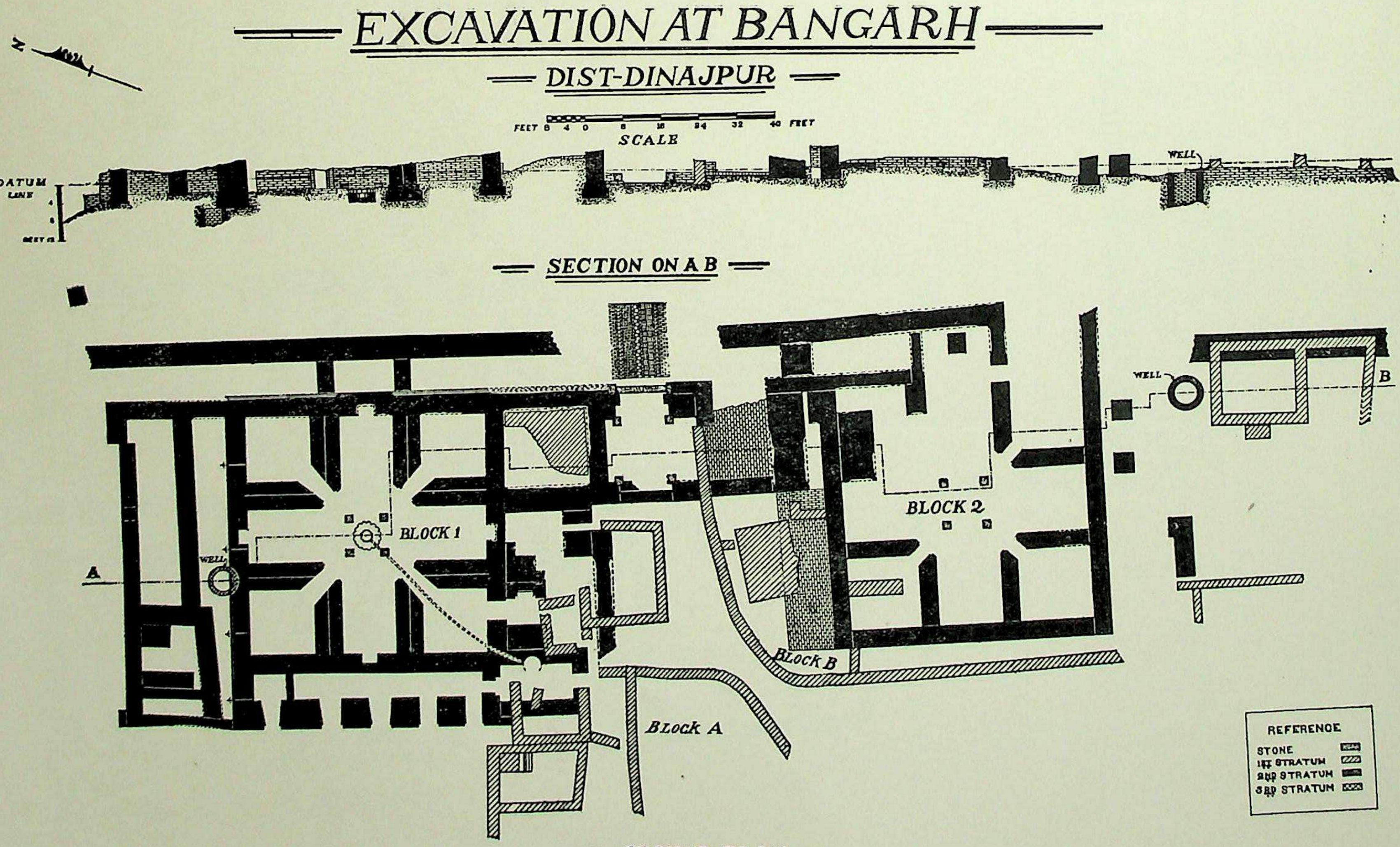
Yādava prakāśa, 2
Yakshi, 37
Yamunā, 1

PLATE 1


EXCAVATION AT BANGARH
DIST-DINAJPUR
FEET 8 4 0 8 16 24 32 40 FEET
SCALE
DATUM LINE
WELL
SECTION ON A B
A
B
WELL
BLOCK 1
BLOCK 2
BLOCK B
BLOCK A
REFERENCE
STONE
1ST STRATUM
2ND STRATUM
3RD STRATUM
GROUND PLAN

Trench 5, N. W. Area

PLATE II

EXCAVATION AT BANGARH

DIST DINAJPUR

TRENCH NO 5

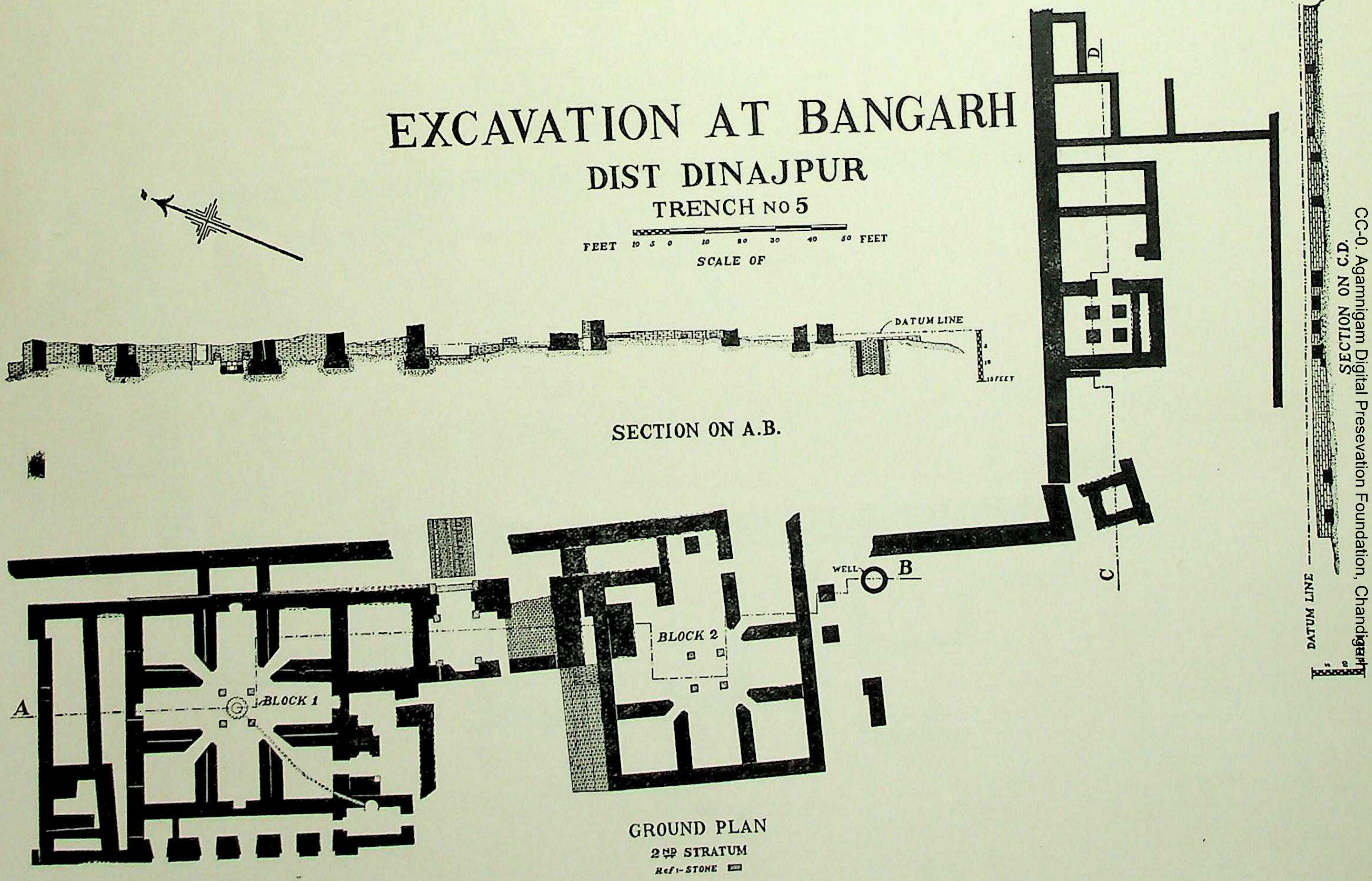
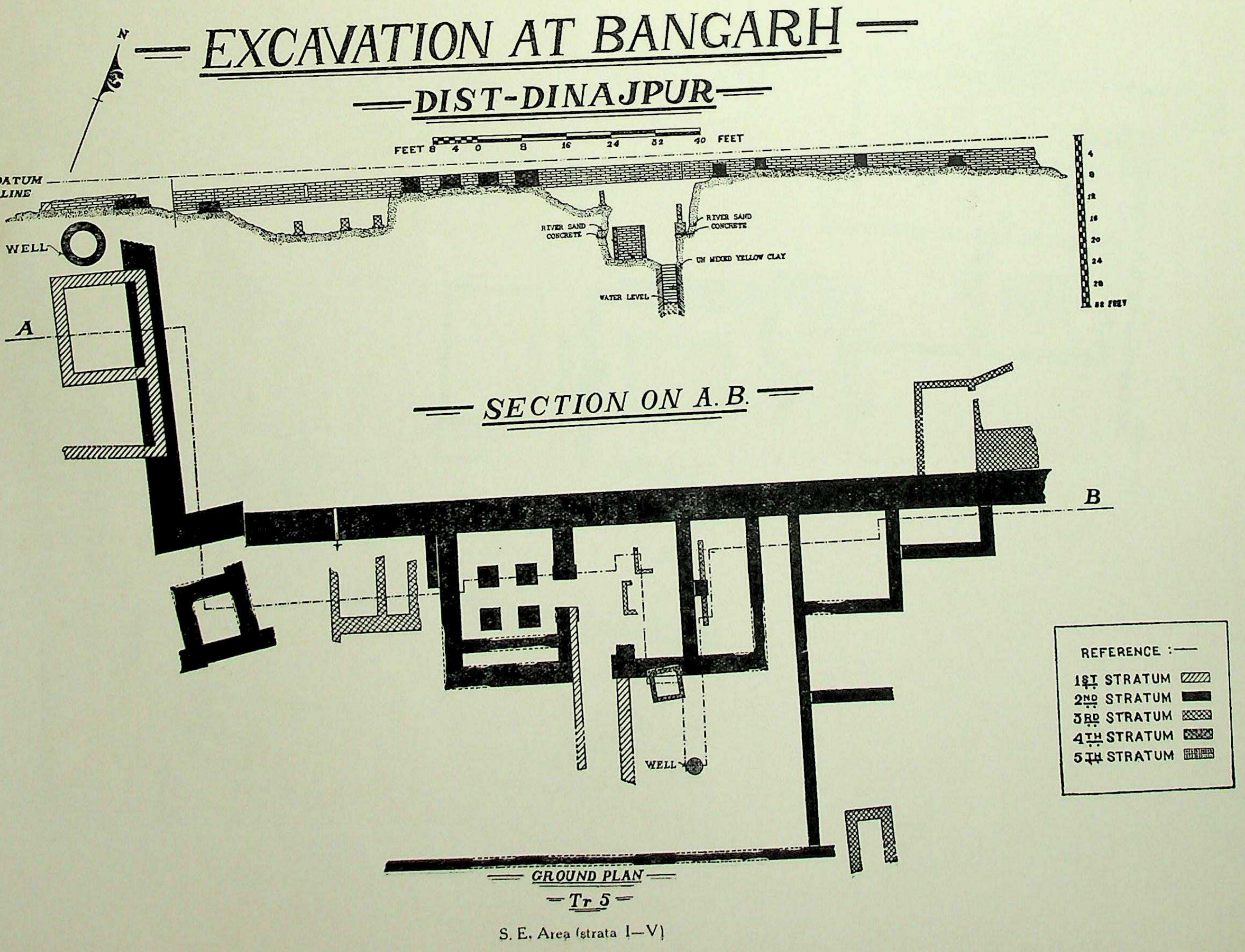

FEET 10 5 0 10 20 30 40 50 FEET
SCALE OF
DATUM LINE
15 FEET
SECTION ON A.B.
A
B
C
D
WELL
BLOCK 1
BLOCK 2
SECTION ON C.D.
DATUM LINE
GROUND PLAN
2ND STRATUM
Ref:- STONE ▨

PLATE III


N
EXCAVATION AT BANGARH
DIST-DINAJPUR
FEET 8 4 0 8 16 24 32 40 FEET
DATUM LINE
WELL
RIVER SAND CONCRETE
RIVER SAND CONCRETE
UN MIXED YELLOW CLAY
WATER LEVEL
4
8
12
16
20
24
28
32 FEET
A
SECTION ON A. B.
B
WELL
REFERENCE :—
1ST STRATUM ▨
2ND STRATUM ■
3RD STRATUM ▩
4TH STRATUM ▩
5TH STRATUM ▦
GROUND PLAN
Tr 5

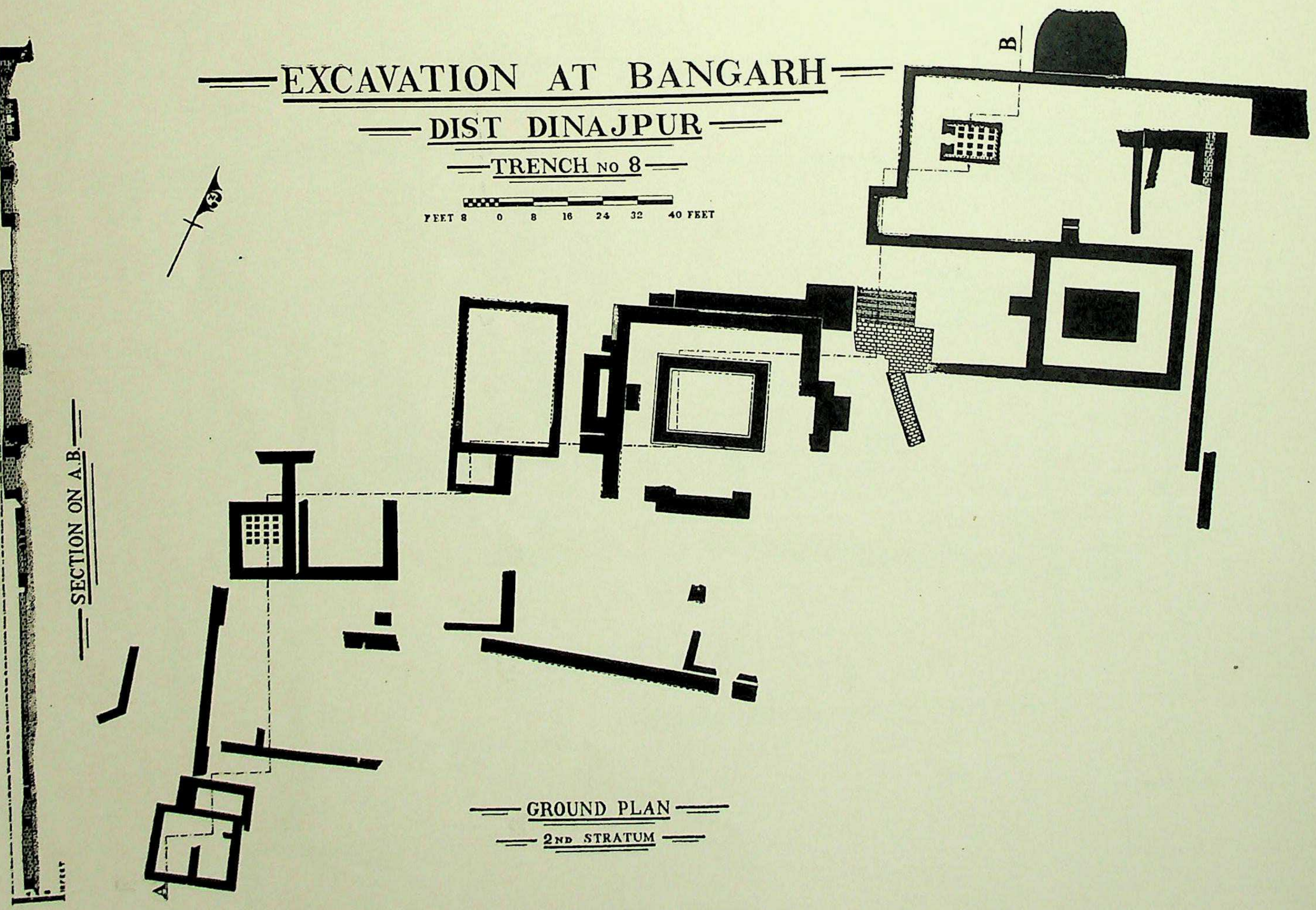
S. E. Area (strata I—V)

PLATE IV

EXCAVATION AT BANGARH

DIST DINAJPUR

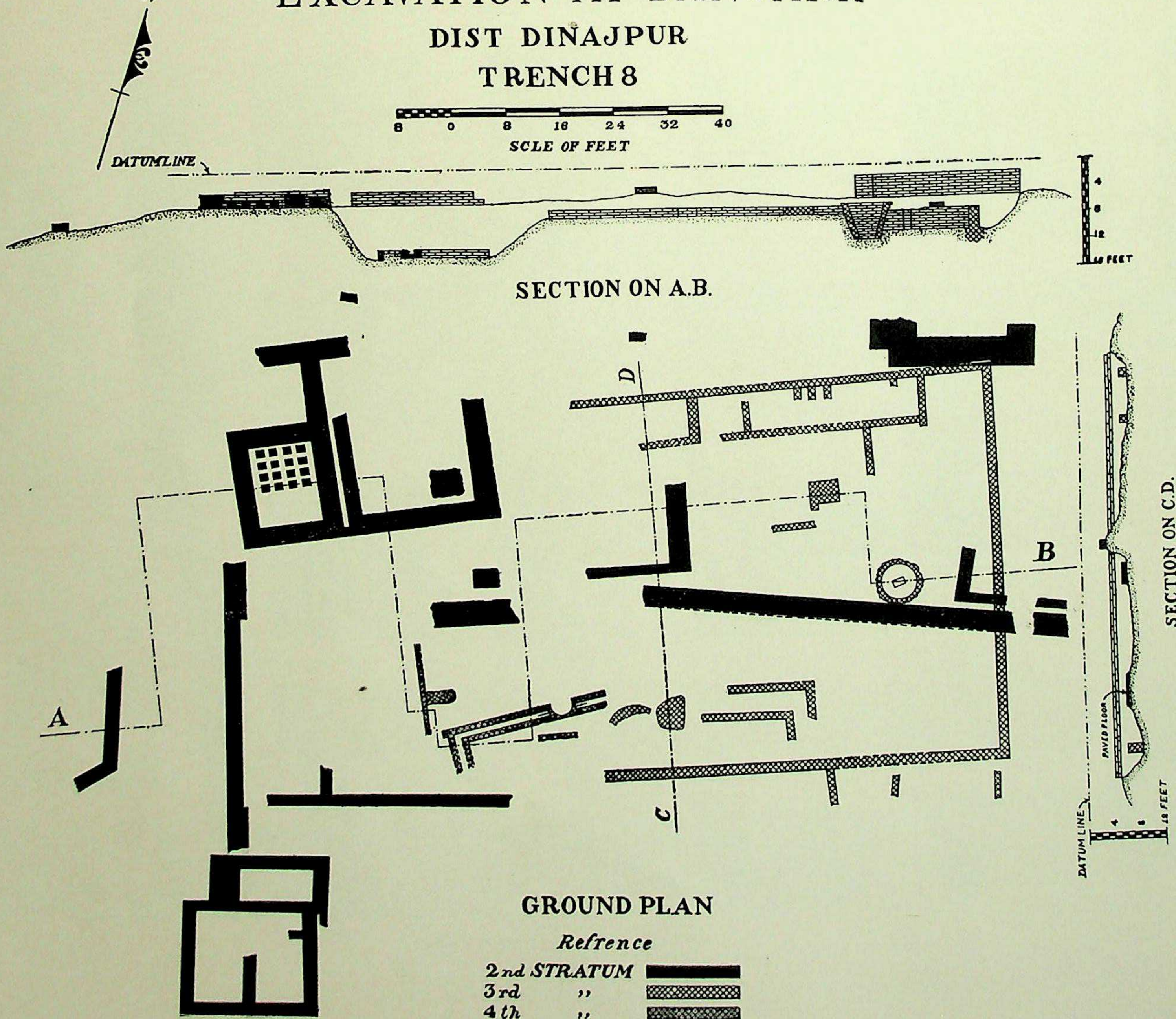
TRENCH NO 8


FEET 8 0 8 16 24 32 40 FEET
B
A
GROUND PLAN
2ND STRATUM
SECTION ON A.B.
DATUM LINE

EXCAVATION AT BANGARH

DIST DINAJPUR

TRENCH 8


N
8 0 8 16 24 32 40
SCLE OF FEET
DATUMLINE
4
8
12
16 FEET
SECTION ON A.B.
A
B
C
D
SECTION ON C.D.
PAVED FLOOR
DATUM LINE
4
8
16 FEET

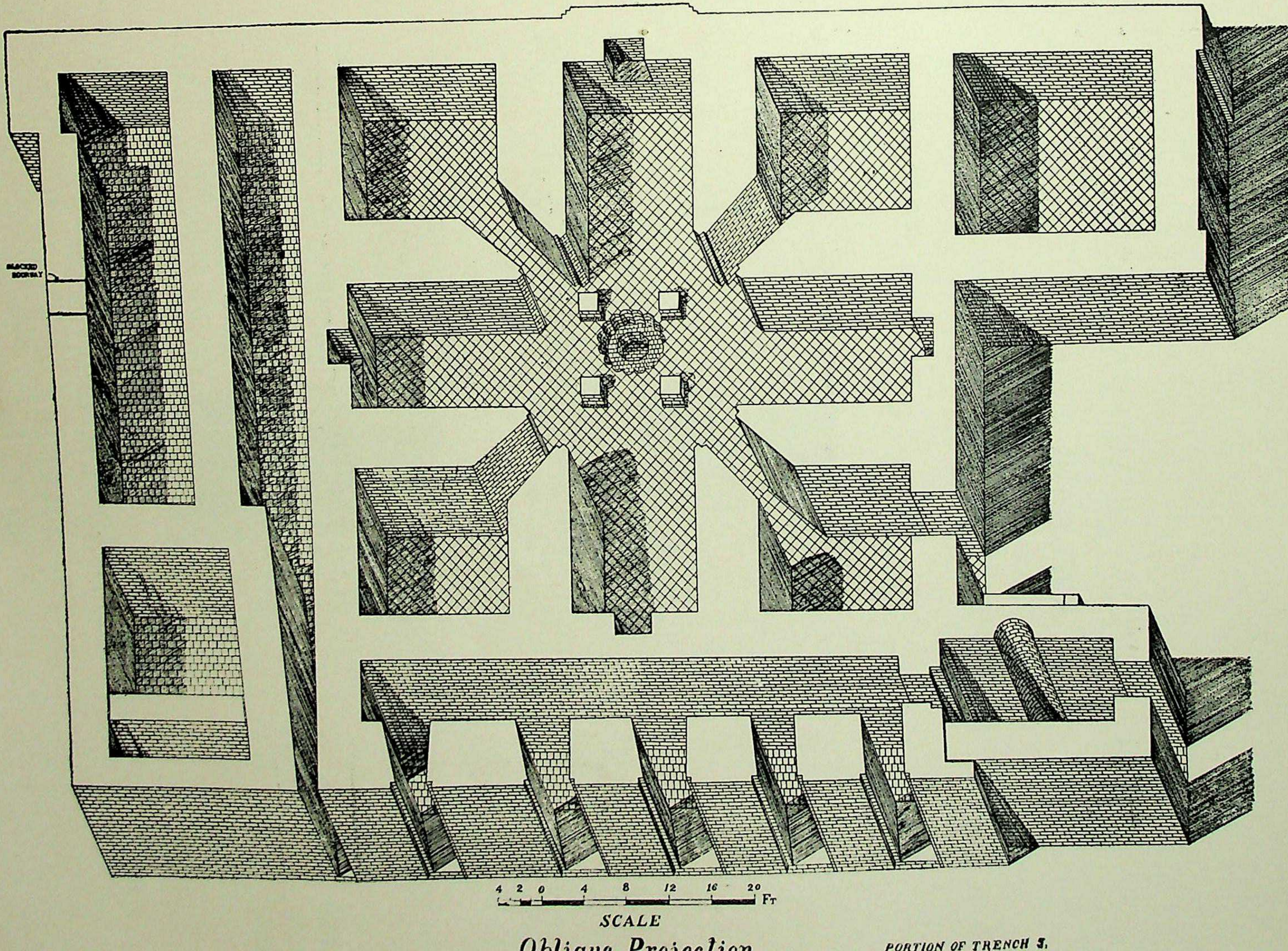
GROUND PLAN

Refrence

2nd STRATUM	■
3rd ,,	▨
4th ,,	▩

Southern Area (strata II-IV)

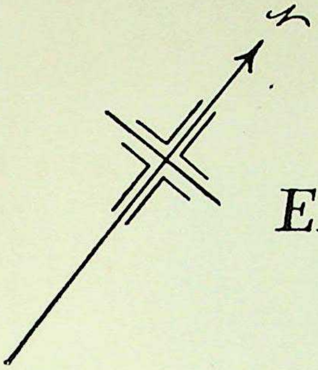
PLATE VI


BLOCKED DOORWAY
4 2 0 4 8 12 16 20 FT
SCALE

Oblique Projection

PORTION OF TRENCH 3.

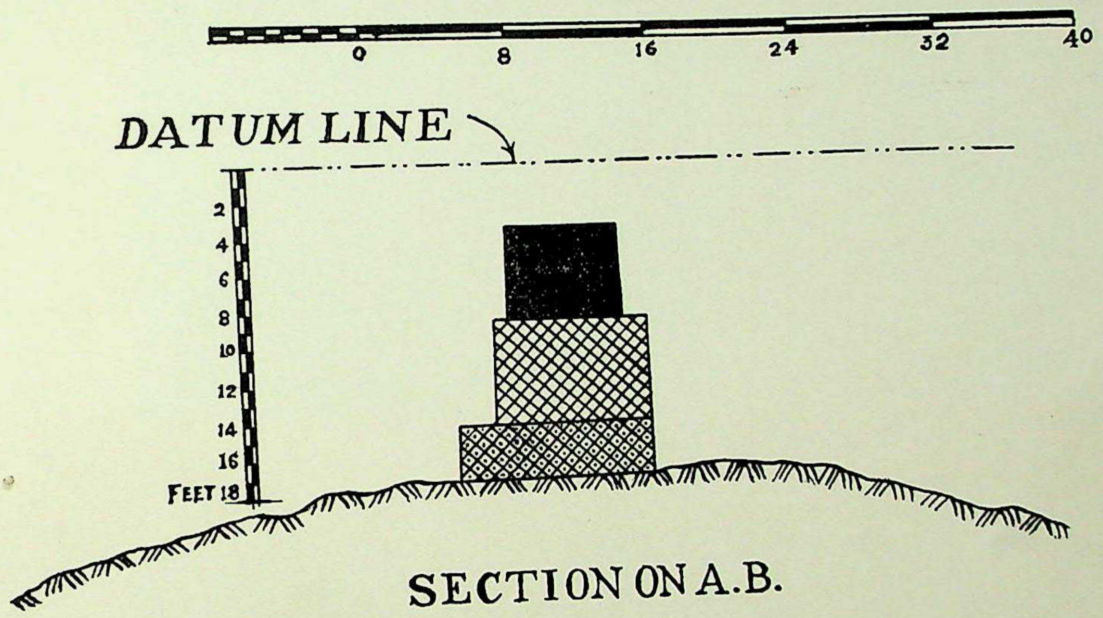
PLATE VII



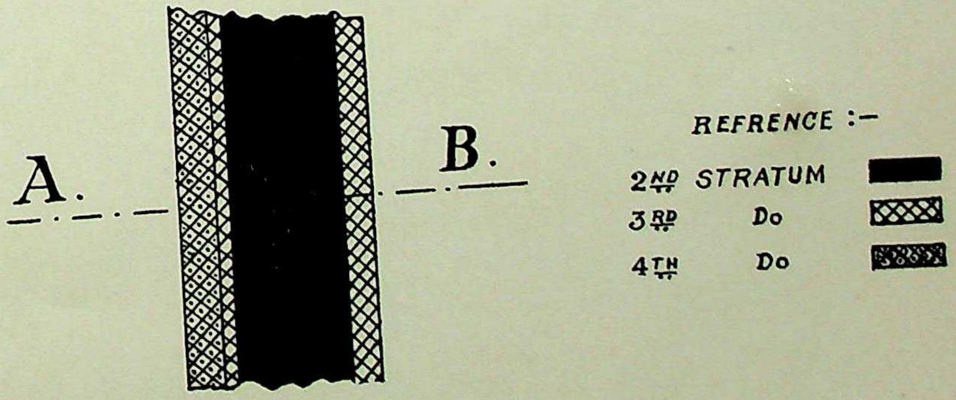
EXCAVATION AT BANGARH

DIST DINAJPUR

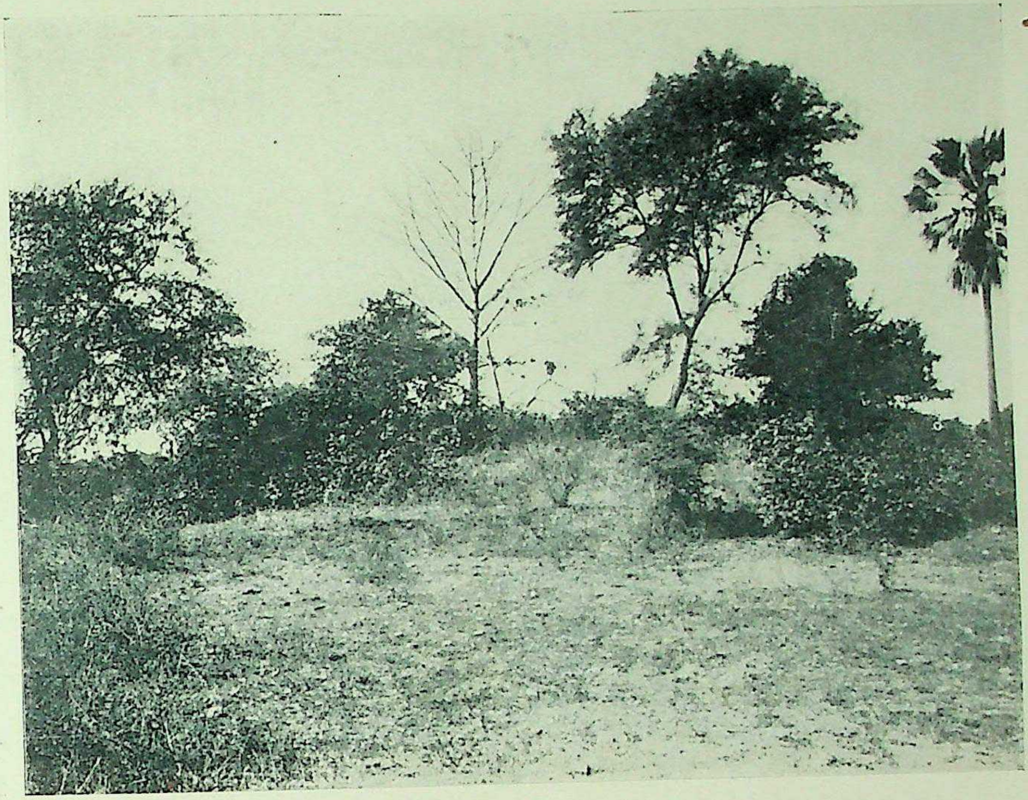
SCALE 8'= 1" INCH


0
8
16
24
32
40
DATUM LINE
2
4
6
8
10
12
14
16
FEET 18

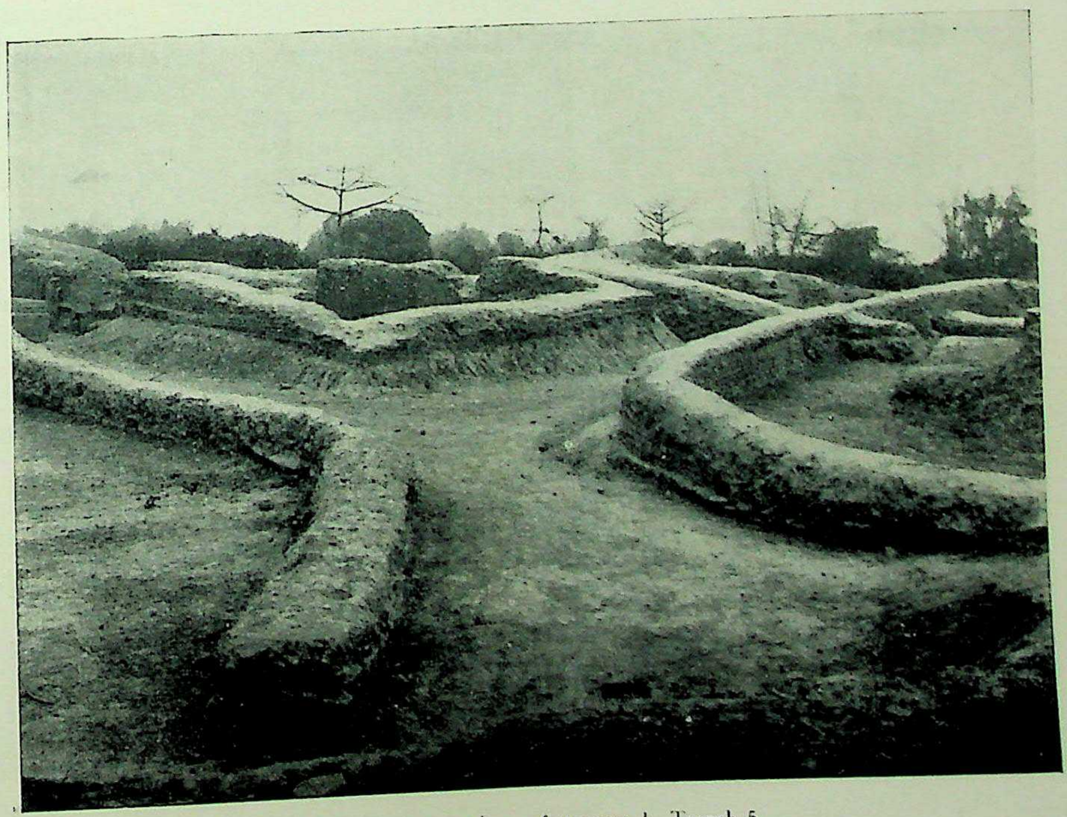
SECTION ON A.B.


A.
B.
REFRENCE :-
2ND STRATUM
3RD Do
4TH Do

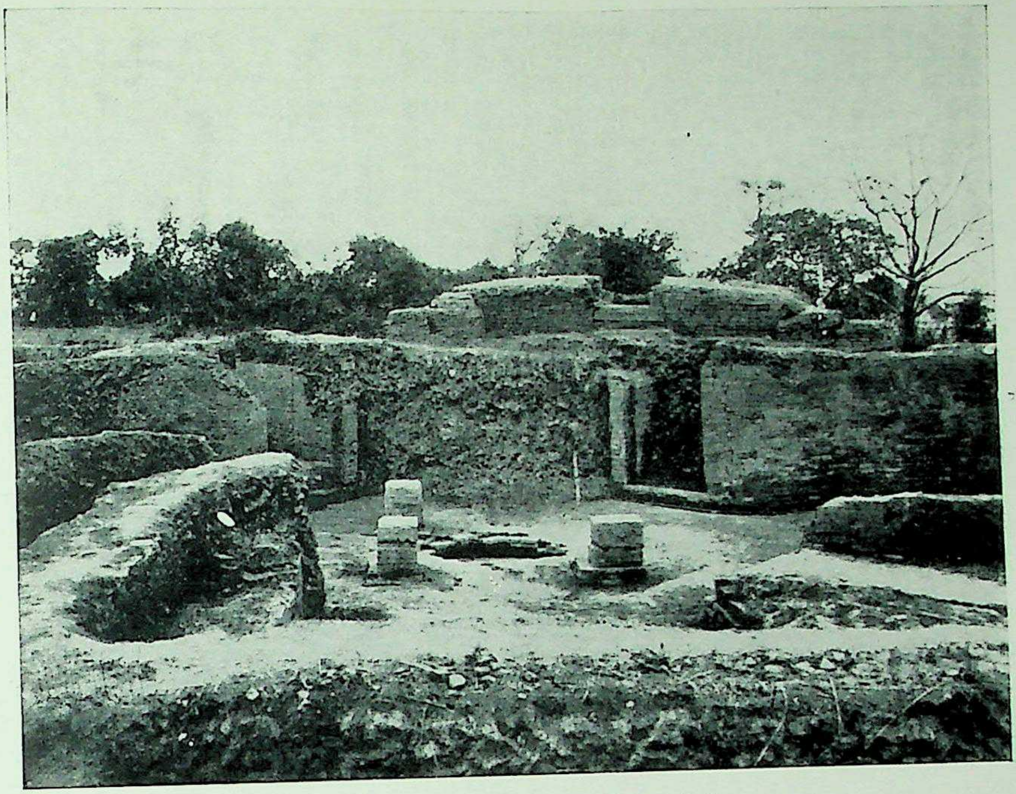
PLAN OF A PORTION OF THE RAMPART WALL (N.W.)



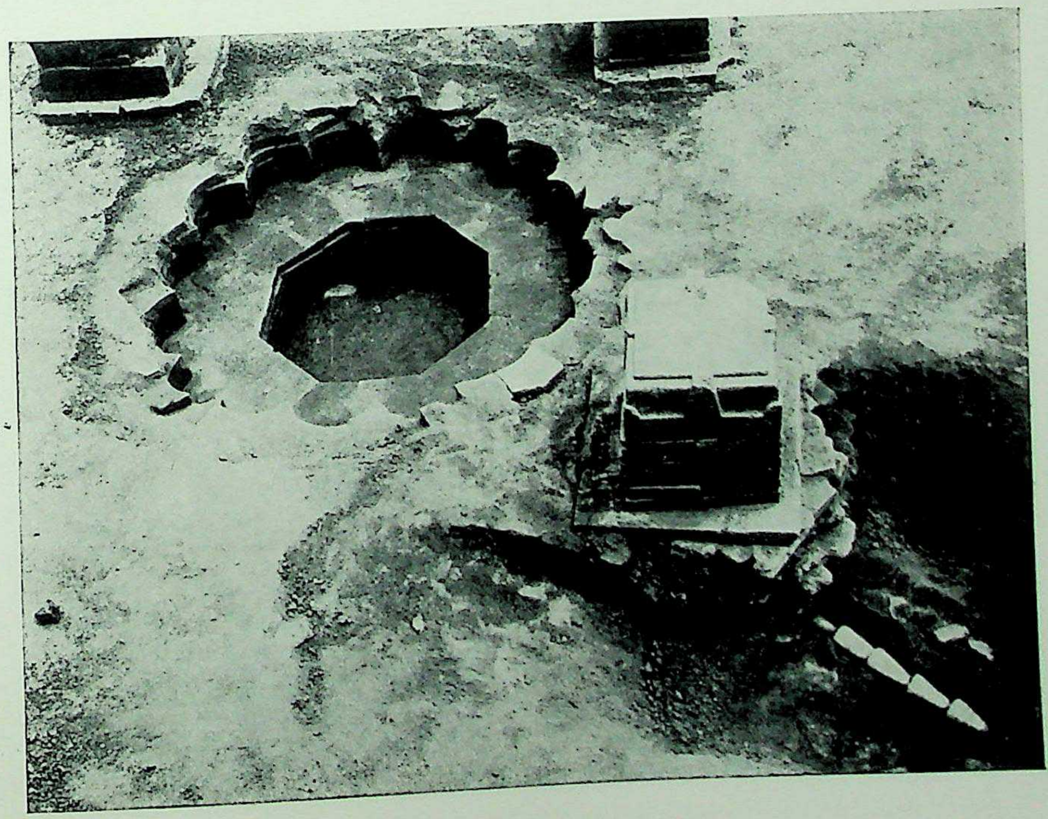
(a) Partial view of Bangarh site before excavation



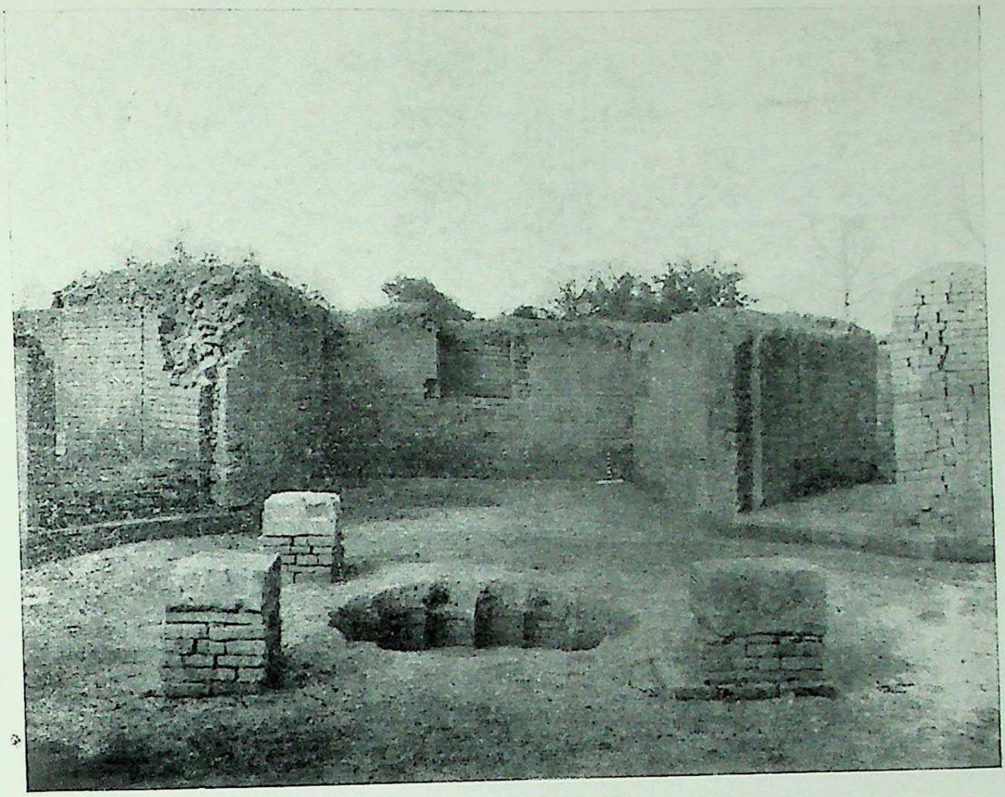
(b) Some structures of stratum I. Trench 5



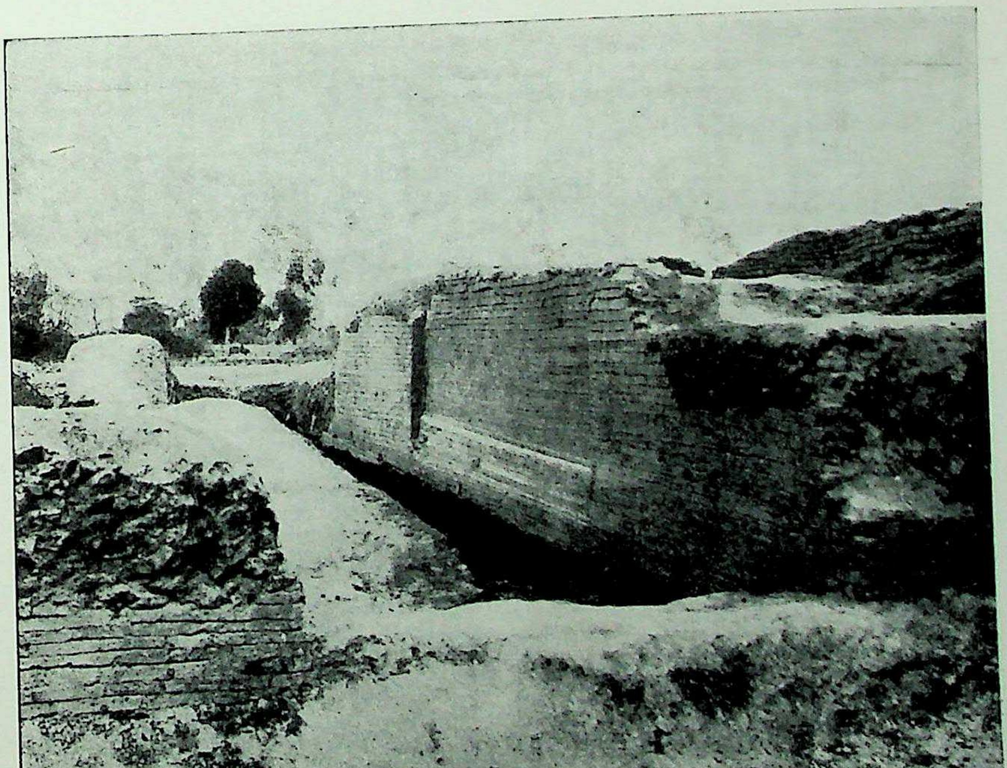
(a) Some structures of Strata I & II, Trench 5



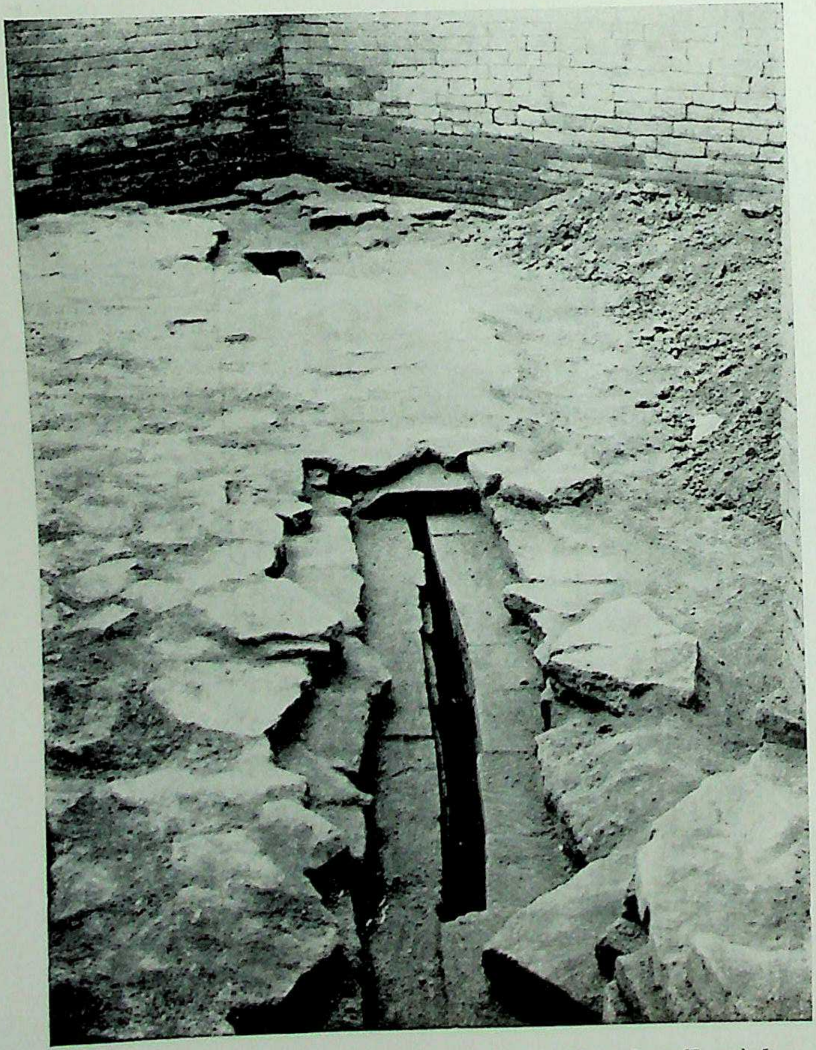
(b) Closer view of Lotus-shaped pit, Trench 5



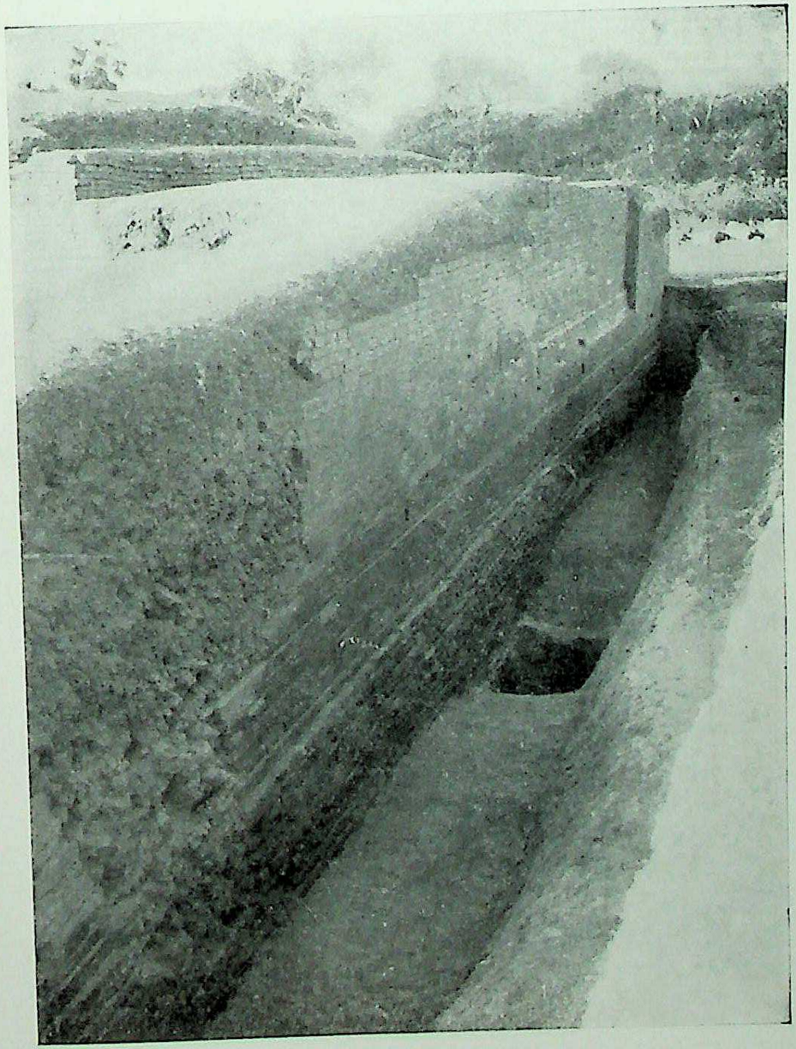
(a) Structures and pillar-bases of Stratum II. Trench 5.



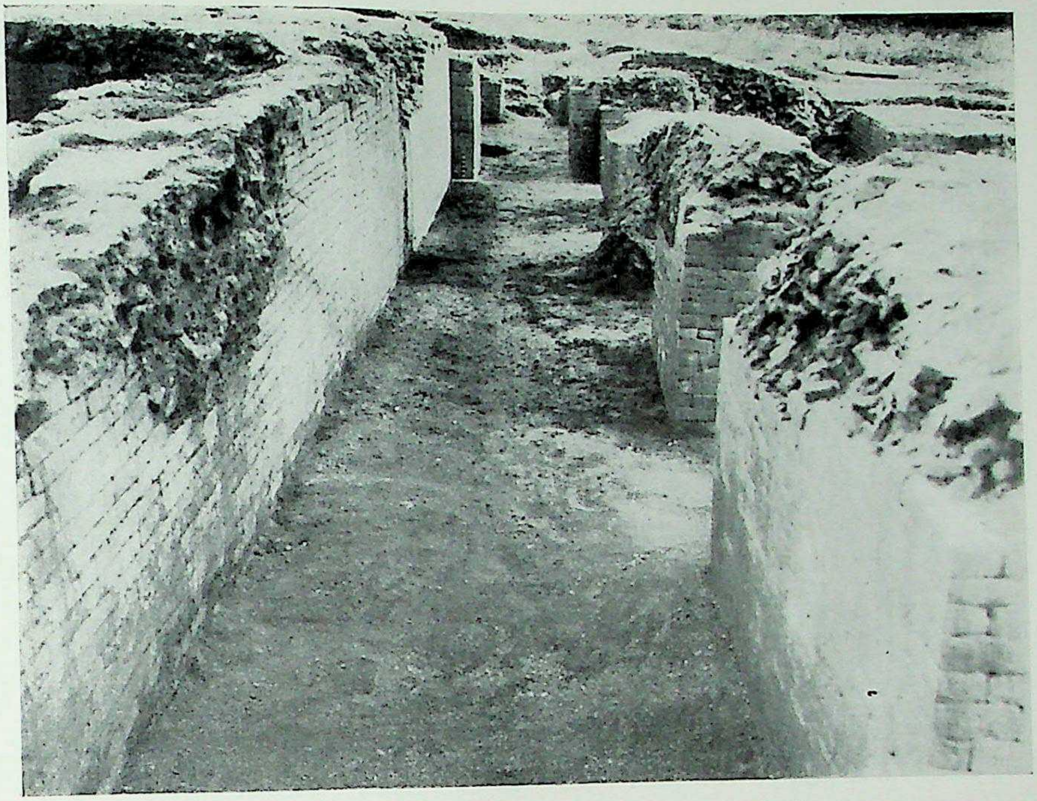
(b) Wall with Mouldings. Stratum II. Trench 5.



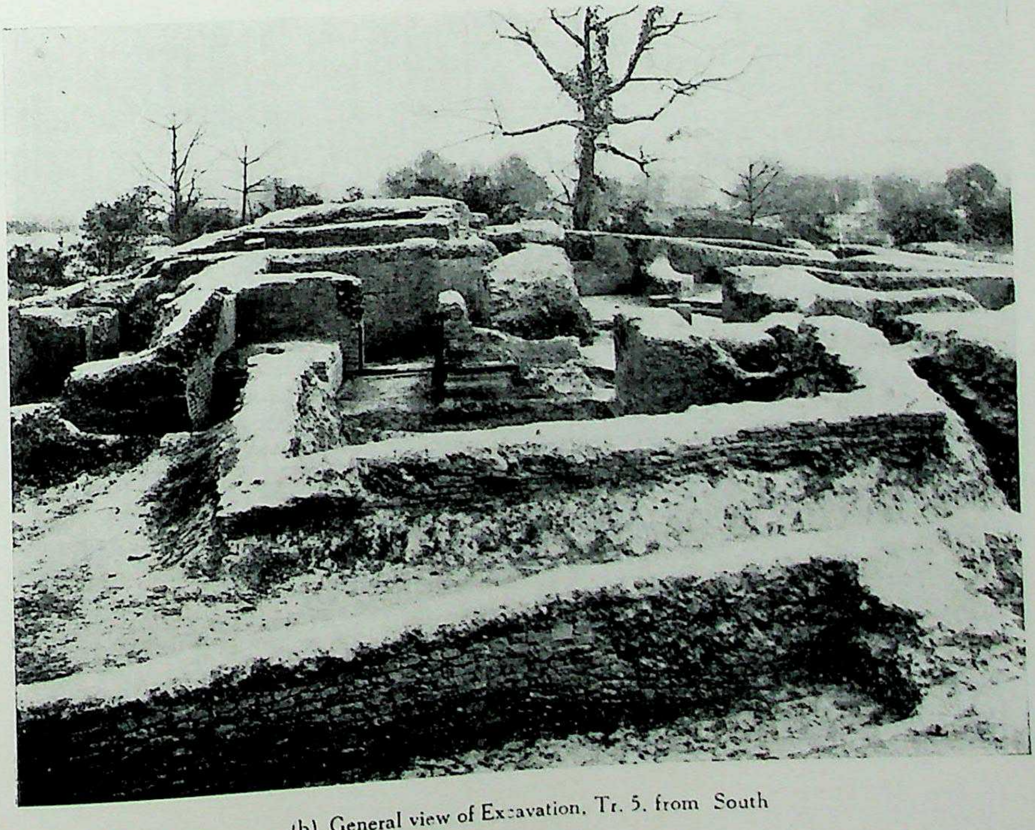
(a) Underground drain connecting the Lotus-shaped pit. Trench 5.



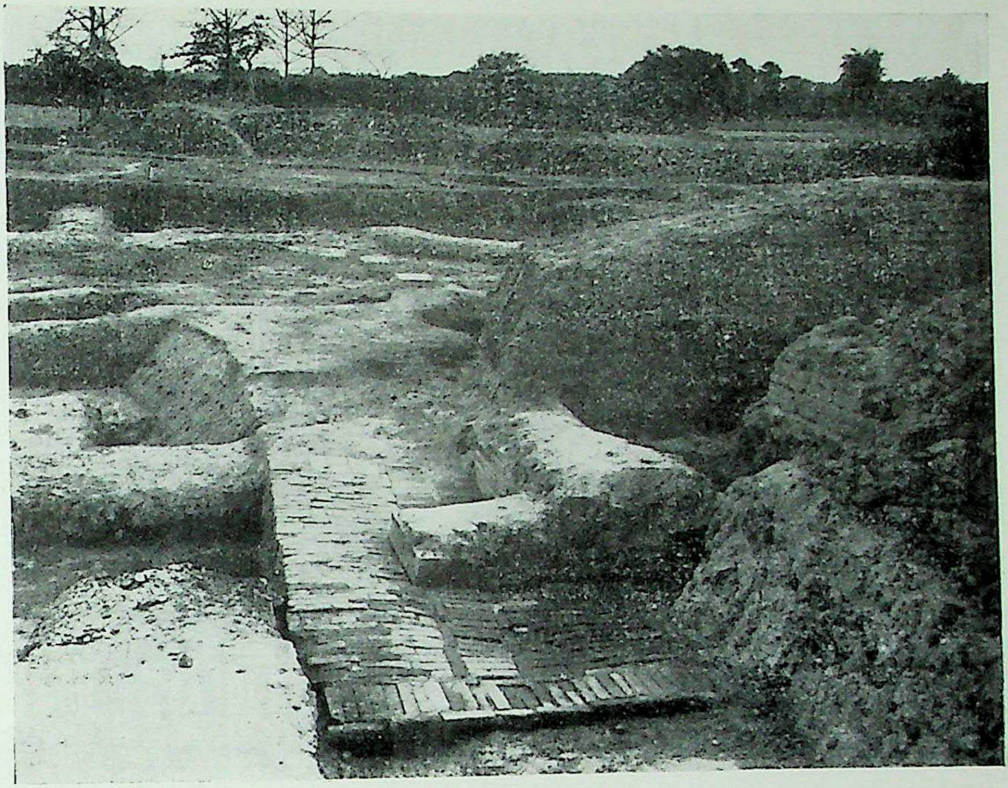
(b) A Masonry well of Stratum III below a wall of Str. II, Tr, 5,



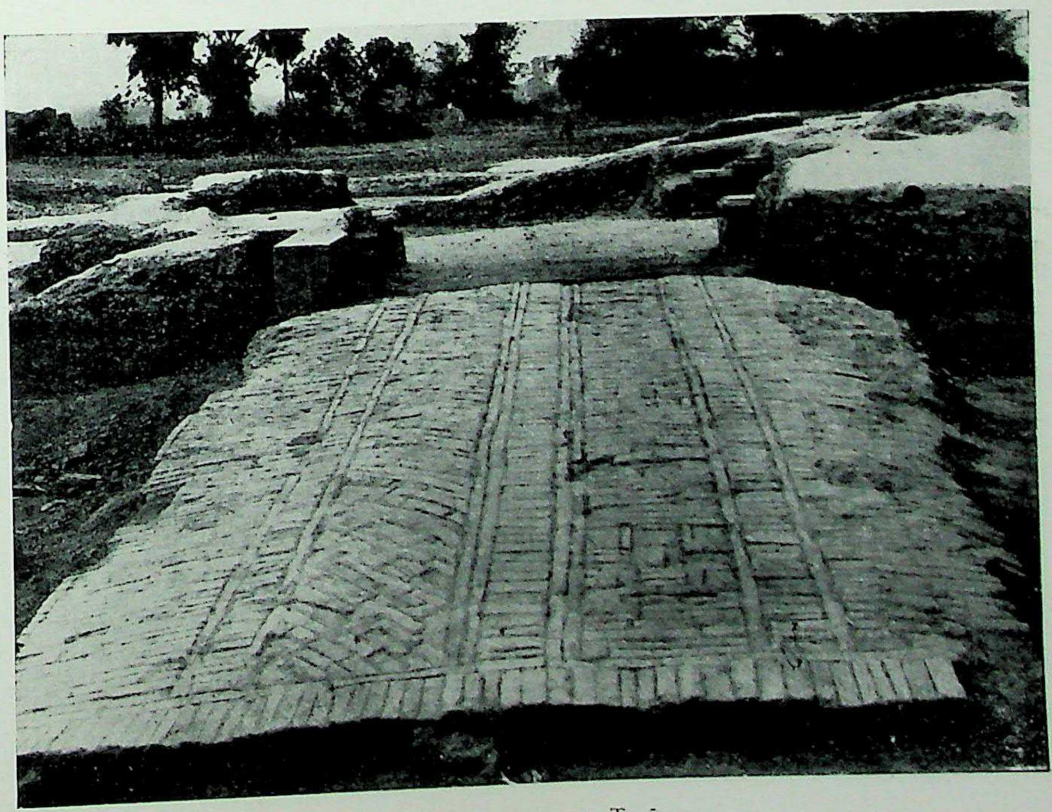
(a) A wall with adjoining corridor. Str, II, Tr. 5



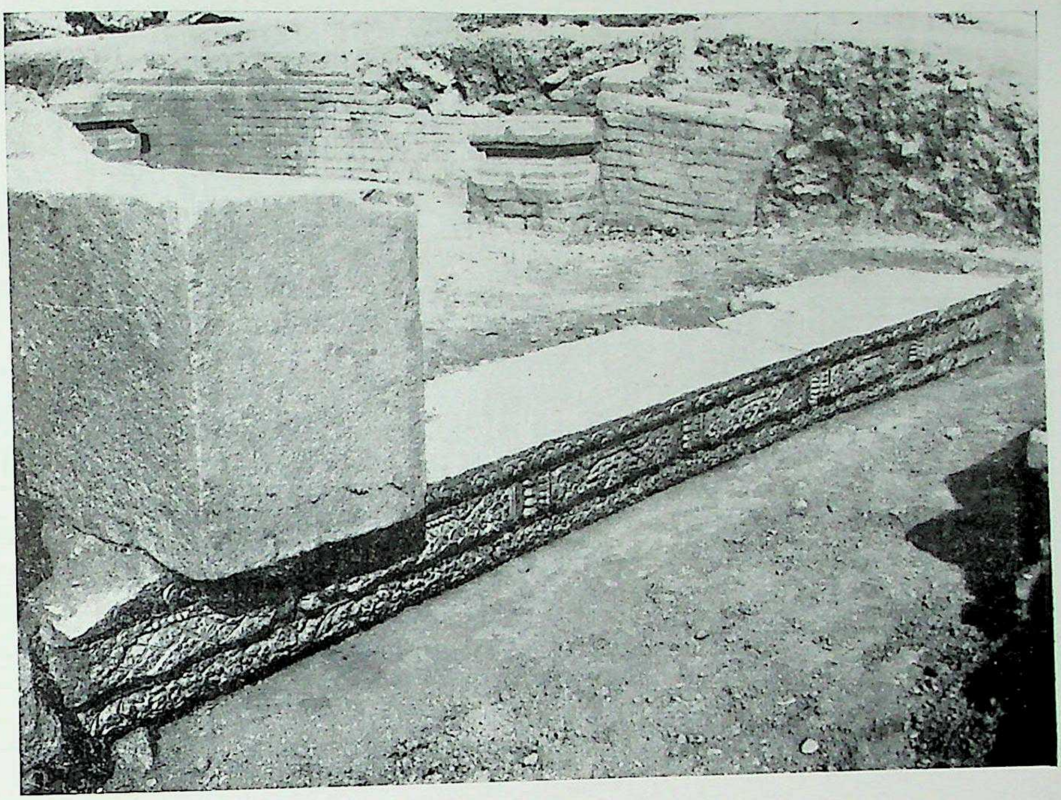
(b) General view of Excavation, Tr. 5, from South



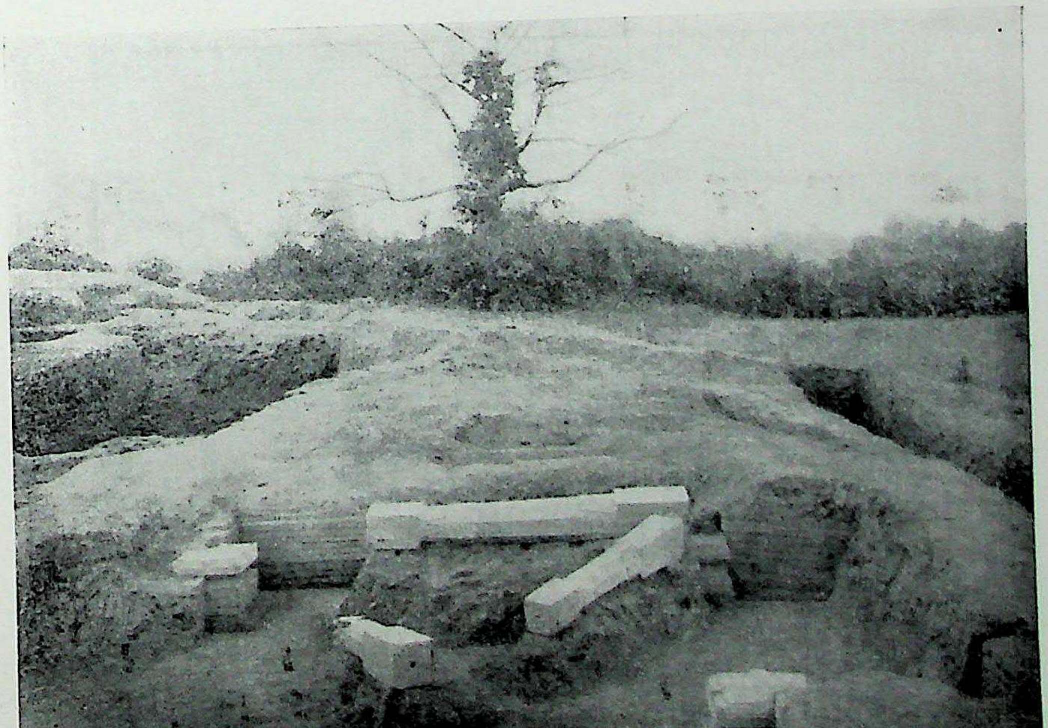
(a) Pavement of brick-on-edge, Str. II, Tr. 5



(b) Sloping pavement., Tr. 5.

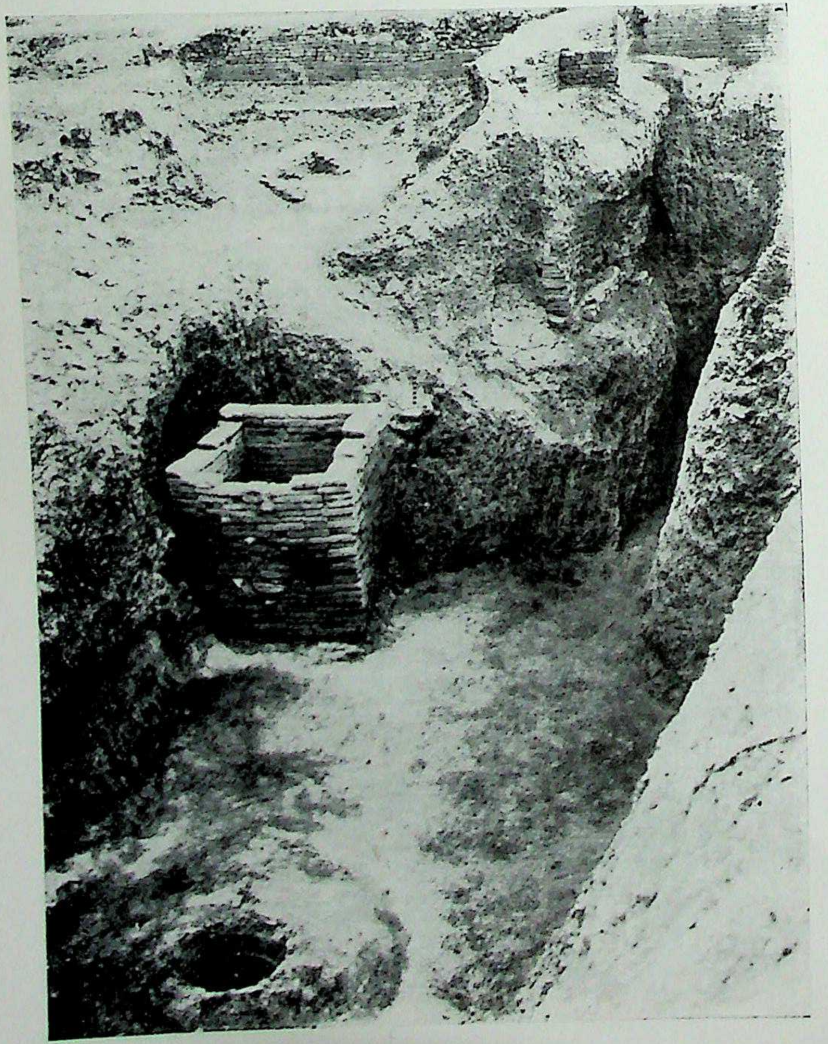


(a) A Carved stone dcor-jamb latterly used as door-sill, Tr. 5

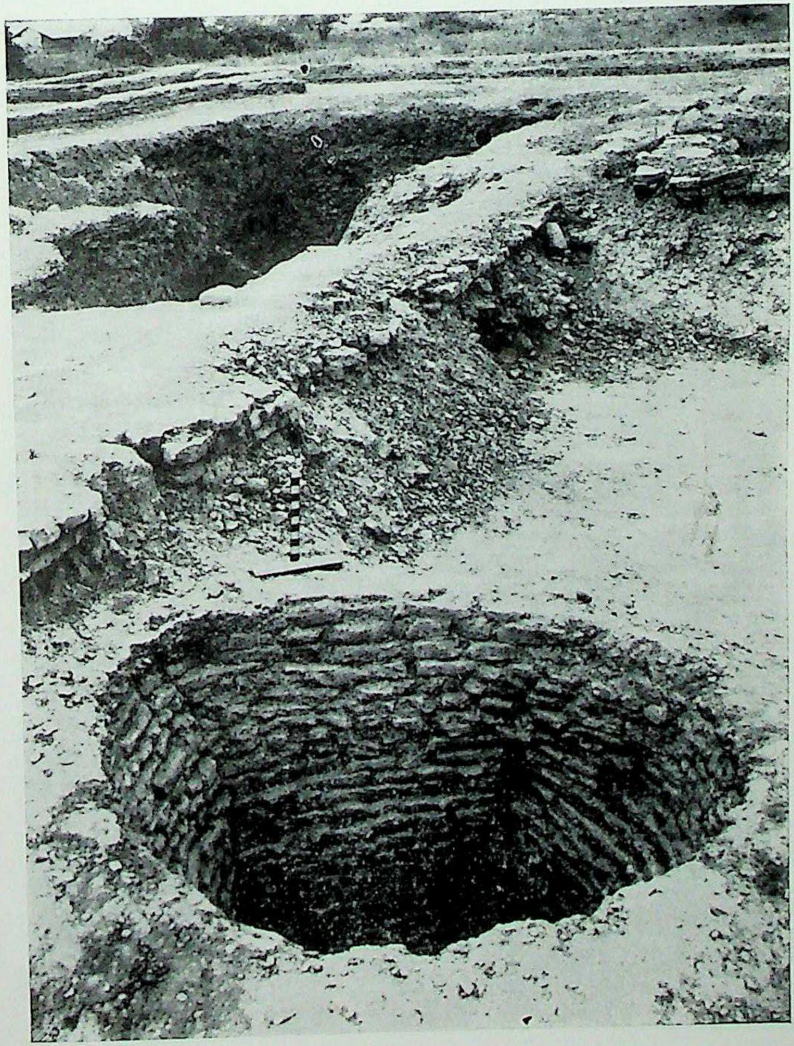


(b) Stone pillars inside a room, Tr 5

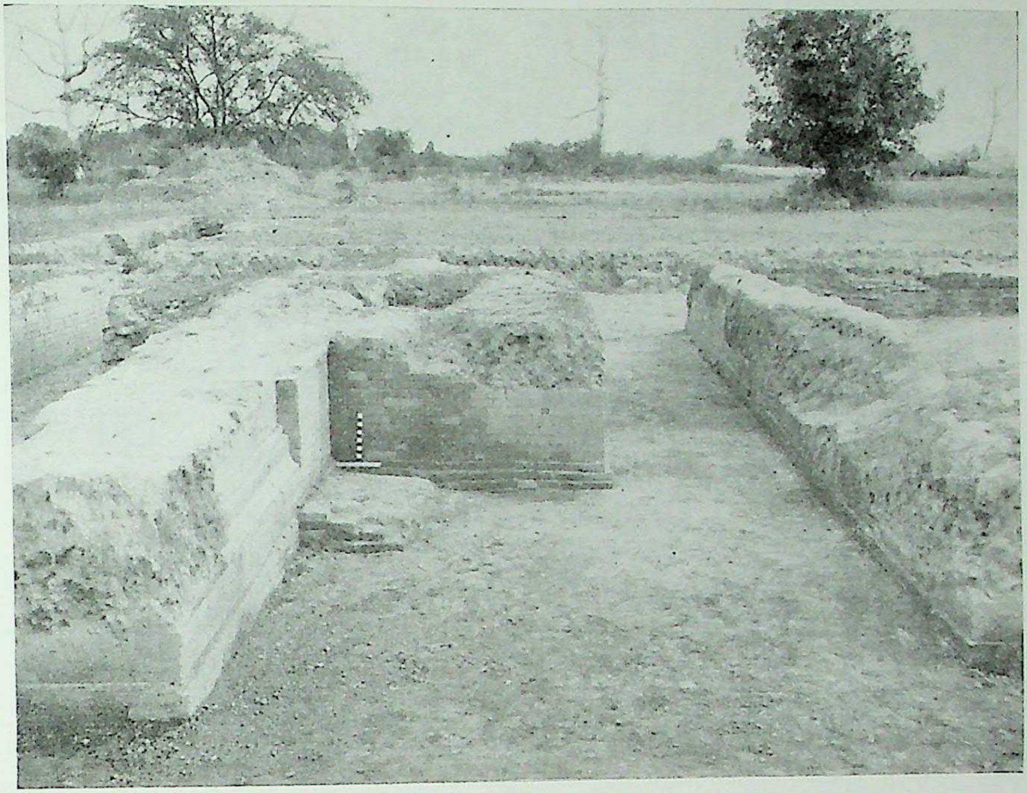
PLATE XV



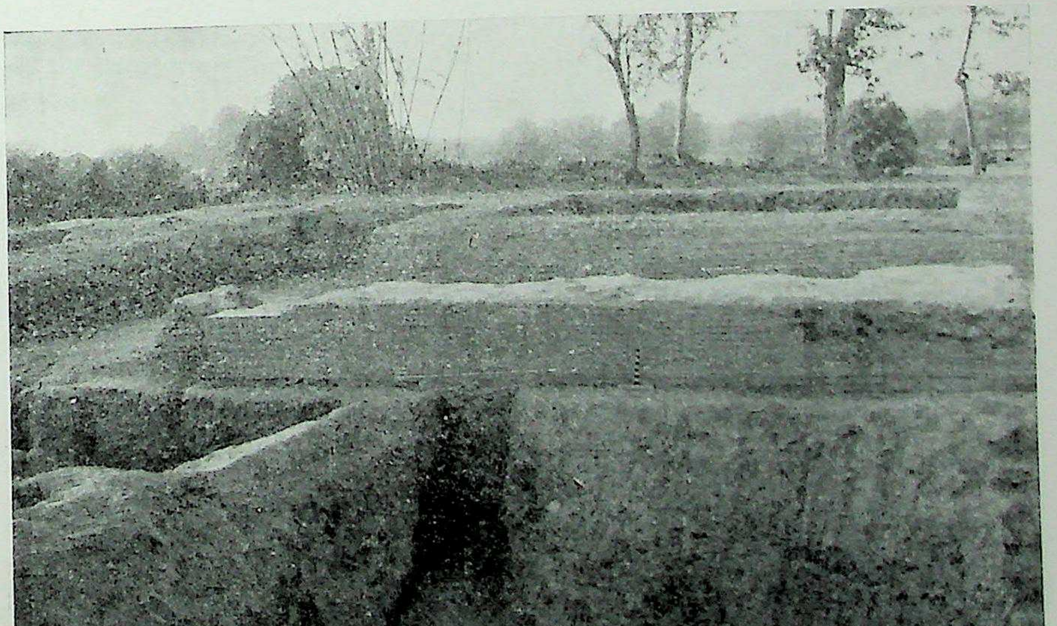
(a) Structures of five different Strata (I-V), Tr. 5



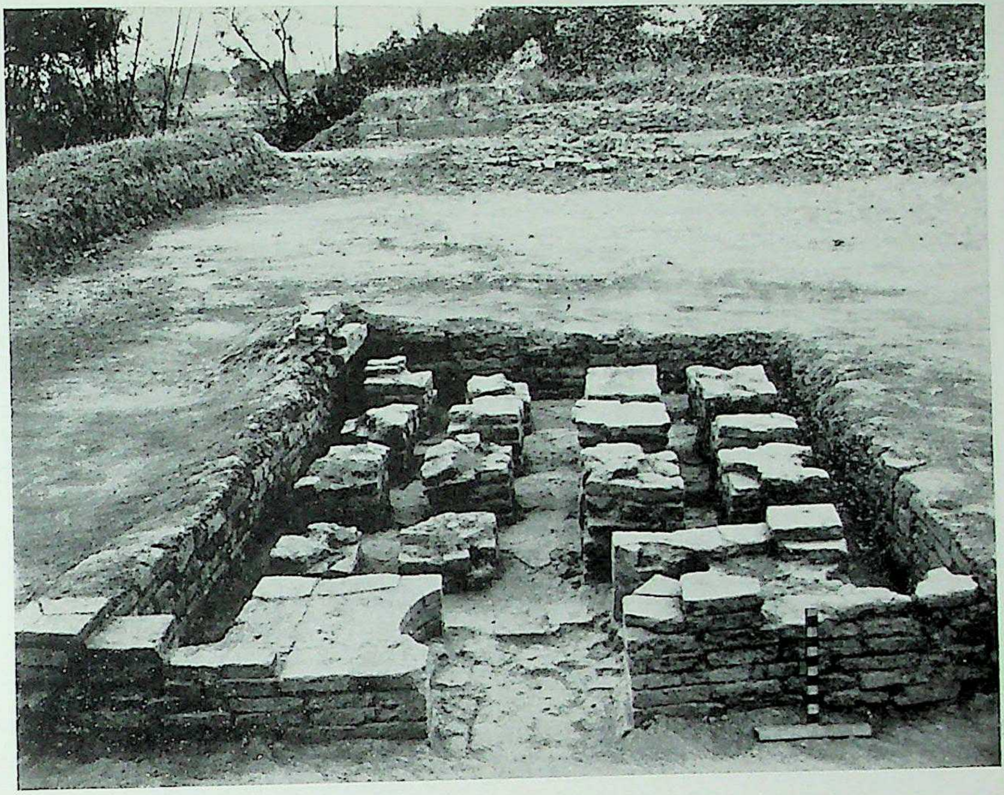
(b) Basket-shaped pit of Str, III, Tr. 8



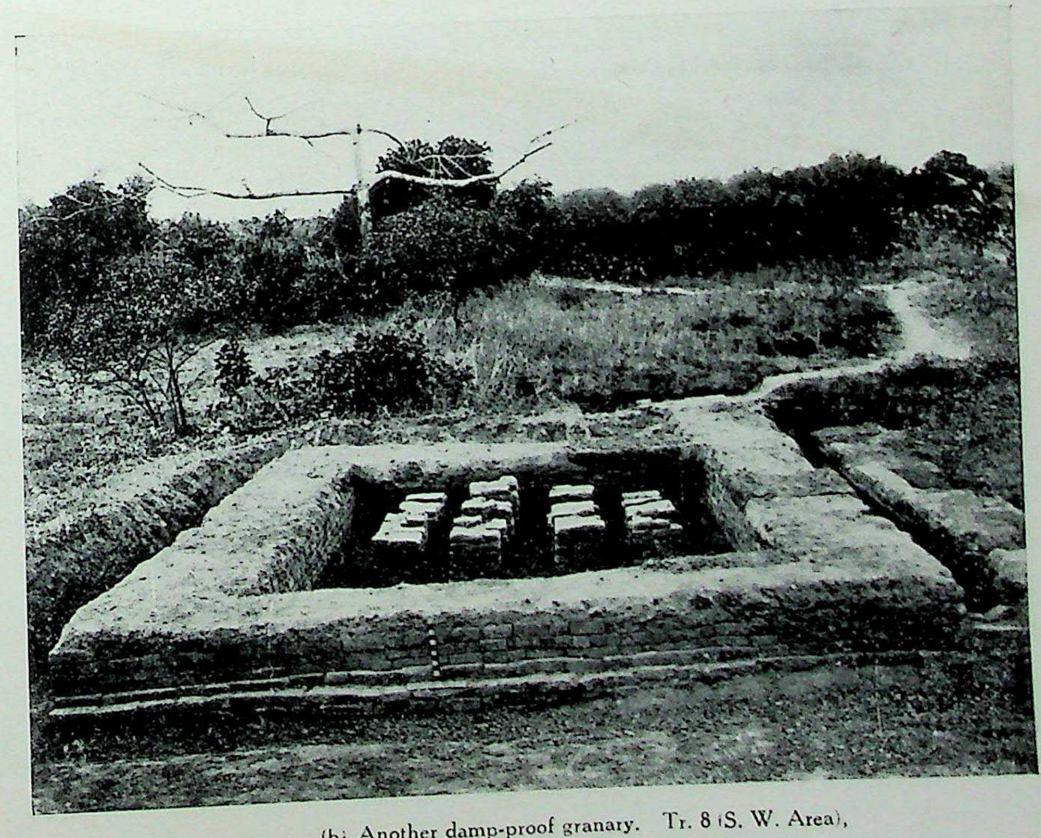
(a) Structures and passage of Str. II, Tr. 8.



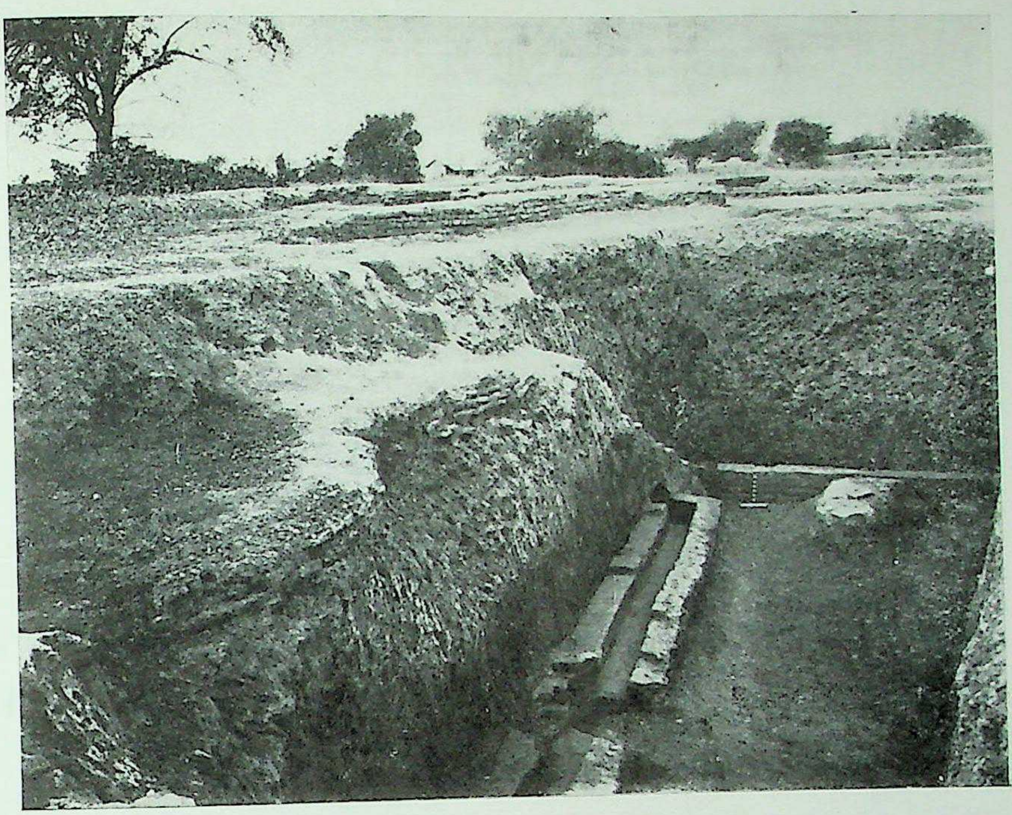
(b) Foundation of a temple (?) built above Structures of Str. III, Tr. 8.



(a) A damp-proof granary. Tr. 8 (N. E. Area).

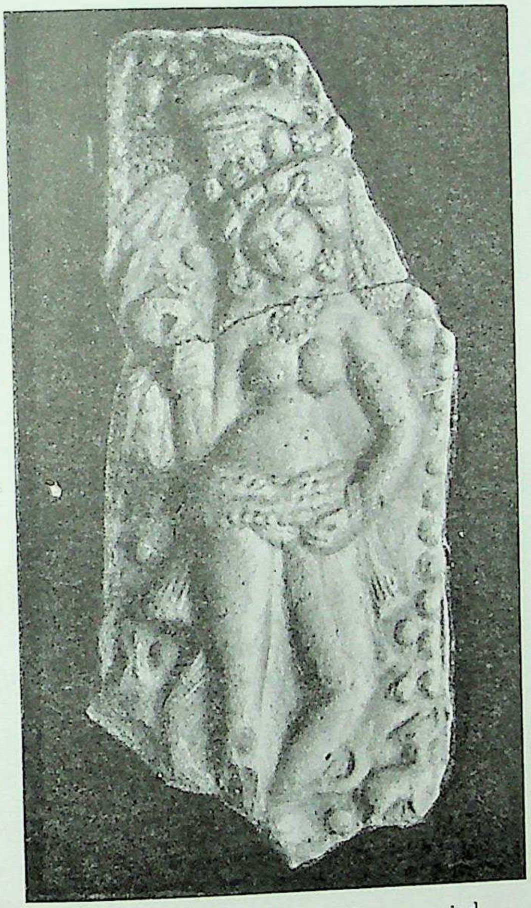


(b) Another damp-proof granary. Tr. 8 (S. W. Area),

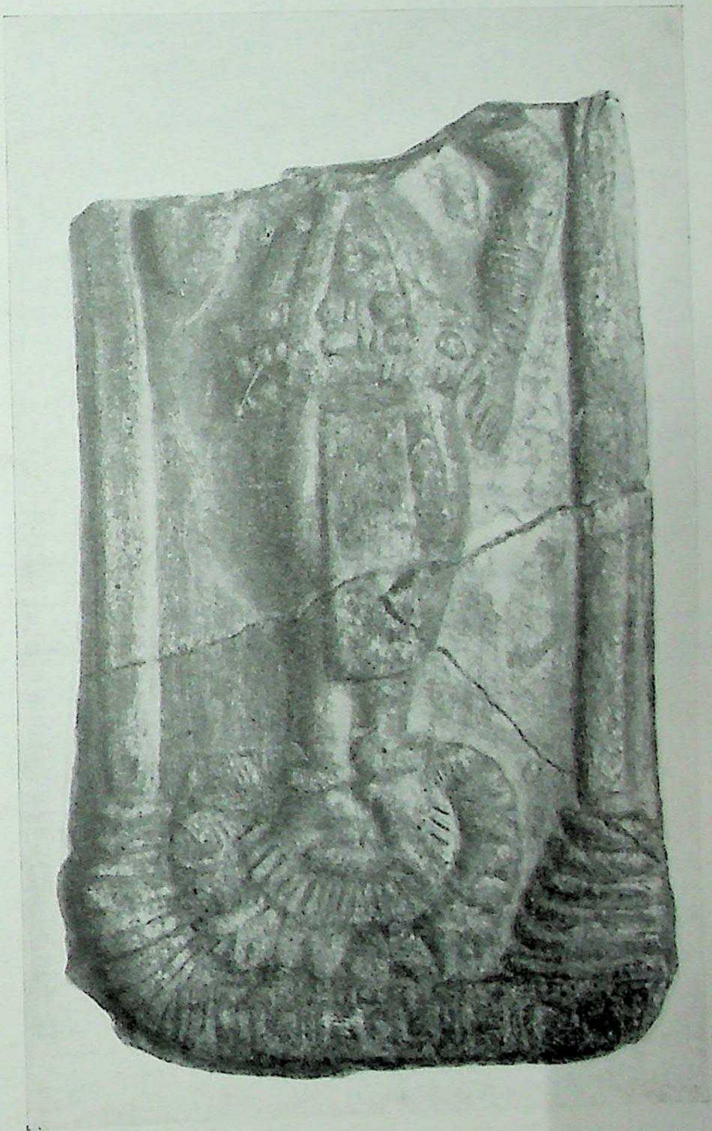


(a) A drain of Str. IV. Tr. 8.

(b) A Bastion attached to the Rampart wall. Tr. 9.

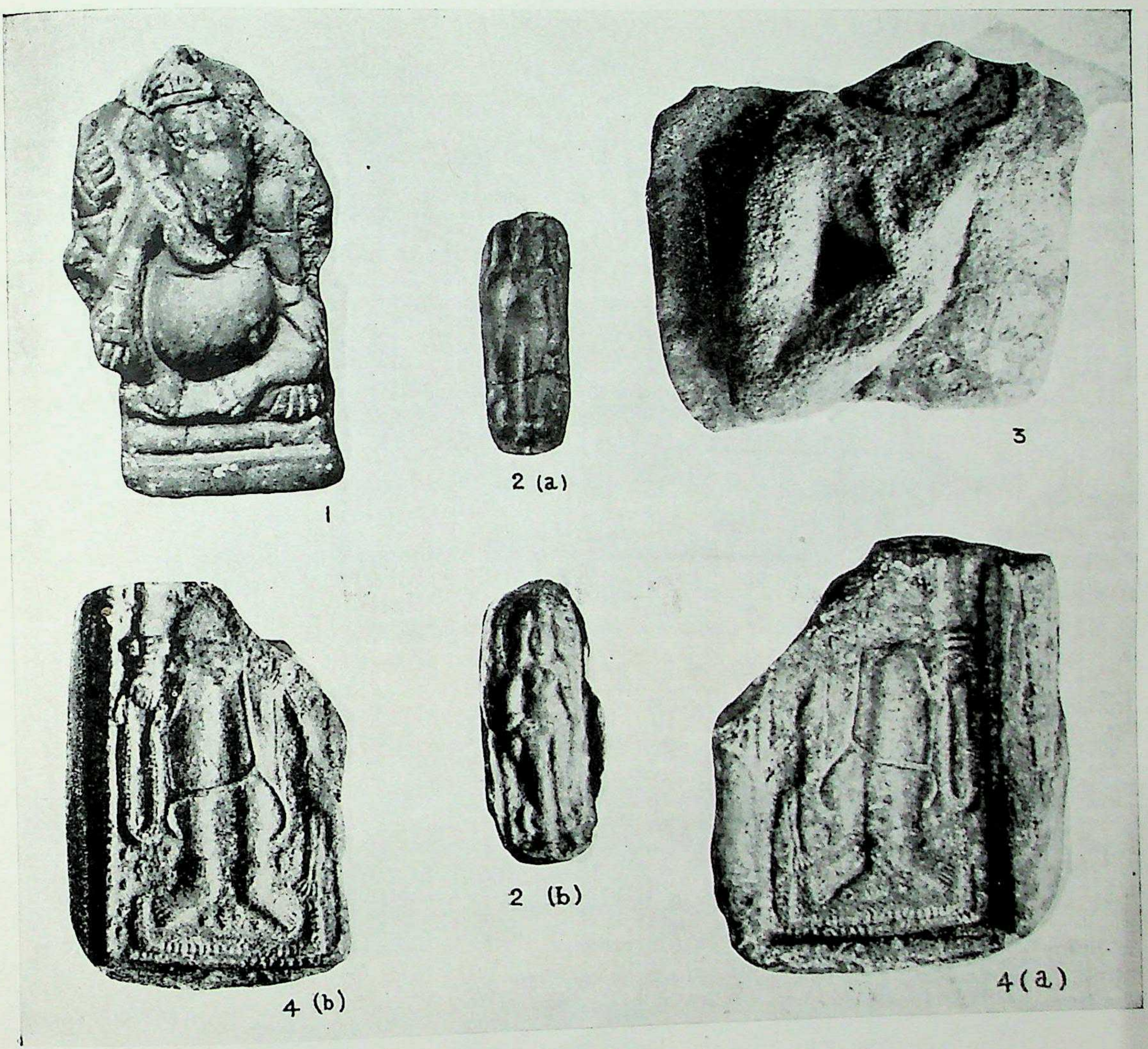


(a) Terracotta female figure of Sunga period

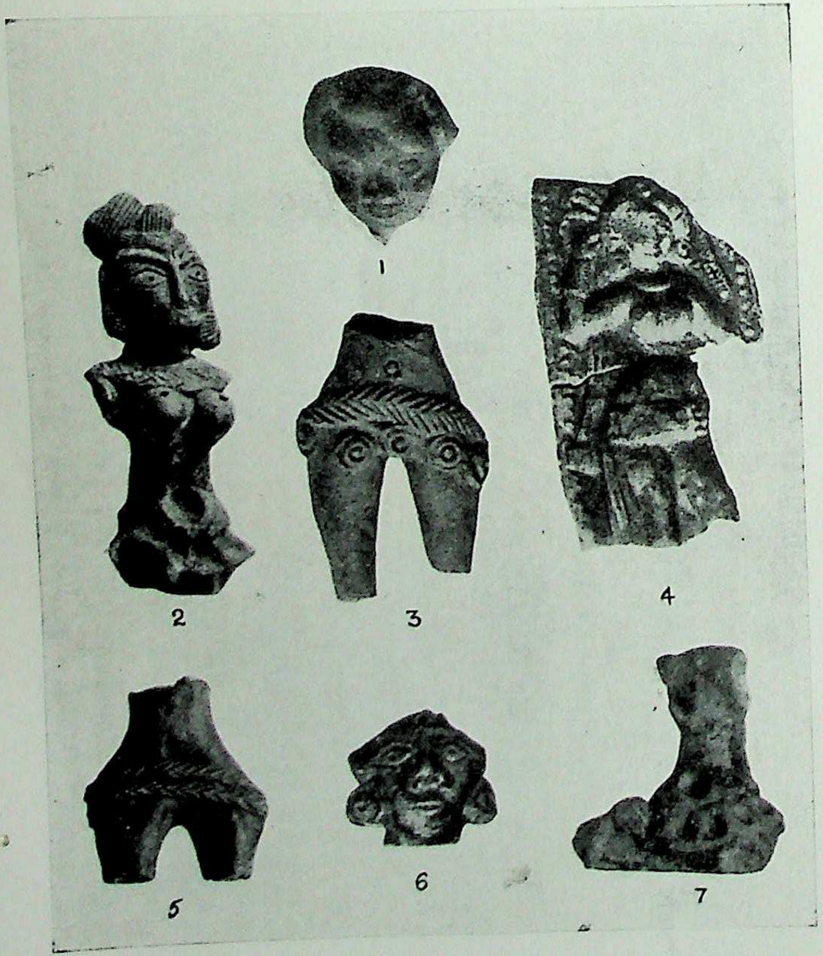


(b) Lower part of a terracotta female figure of Sunga period

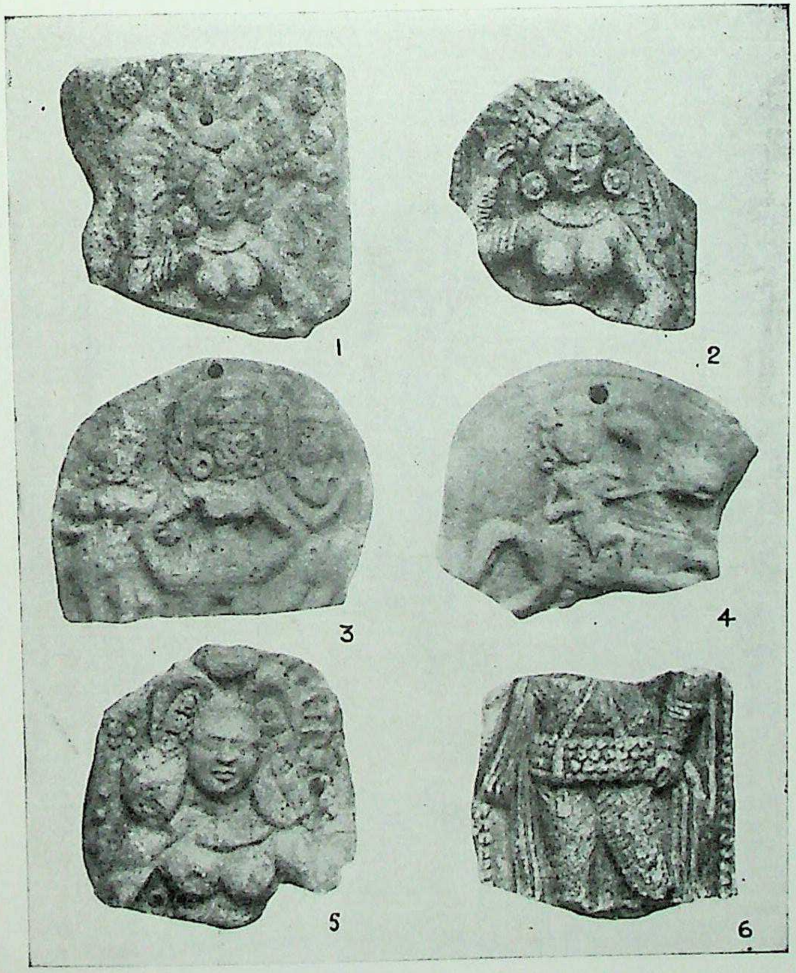
PLATE XX



1 Gaṇeśa of Medieval period.
2 (a) Terra cotta female figure of Sunga period.
2 (b) Original Clay mould of 2 (a) above.
3. Fragment of a T. C. plaque (Buddha?) of Pala period.
4 (a) Clay mould of T. C. female figure of Sunga period.
4 (b) Modern cast of 4 (a) above.

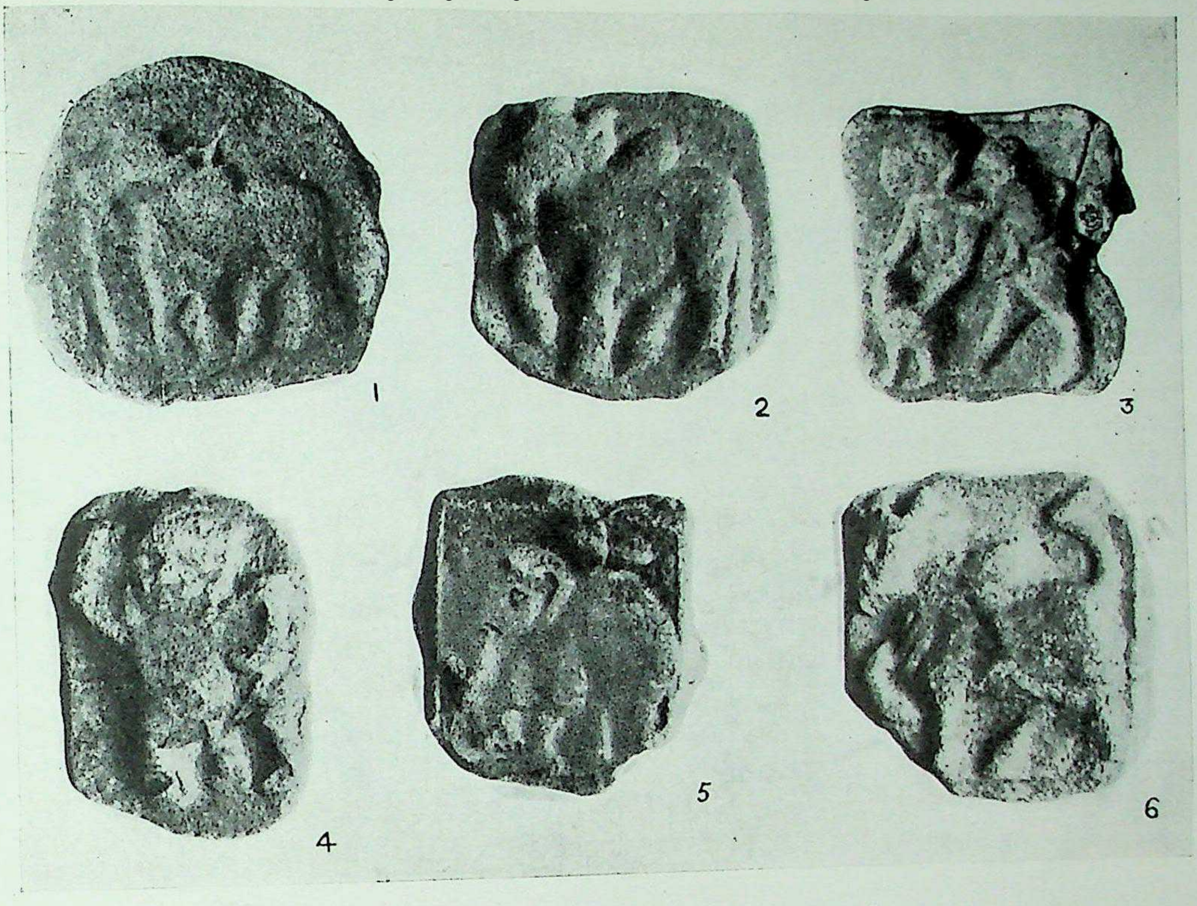


(a) Types of Terra Cotta figurines

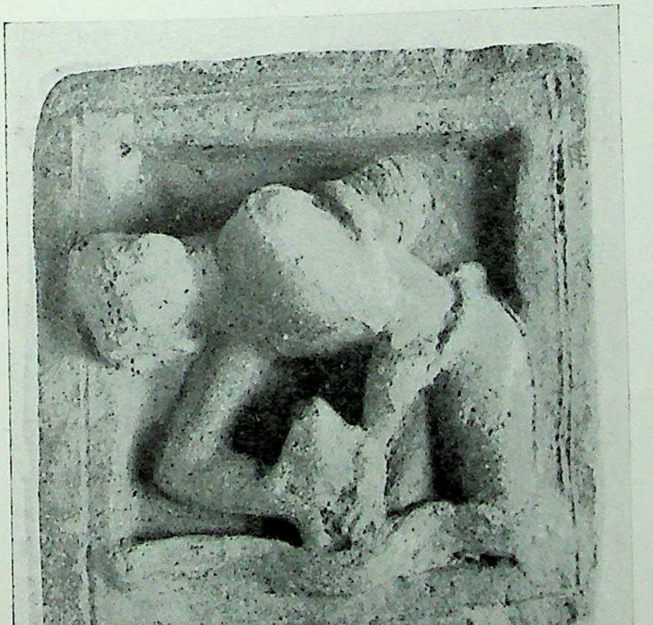


(b) Terra Cotta moulded plaques.

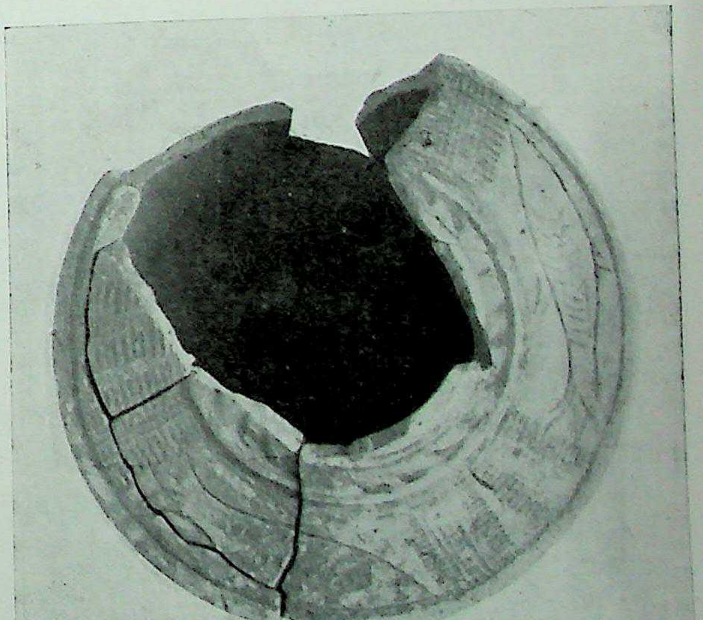
PLATE XXII



(a) Terra Cotta moulded plaques representing various animals

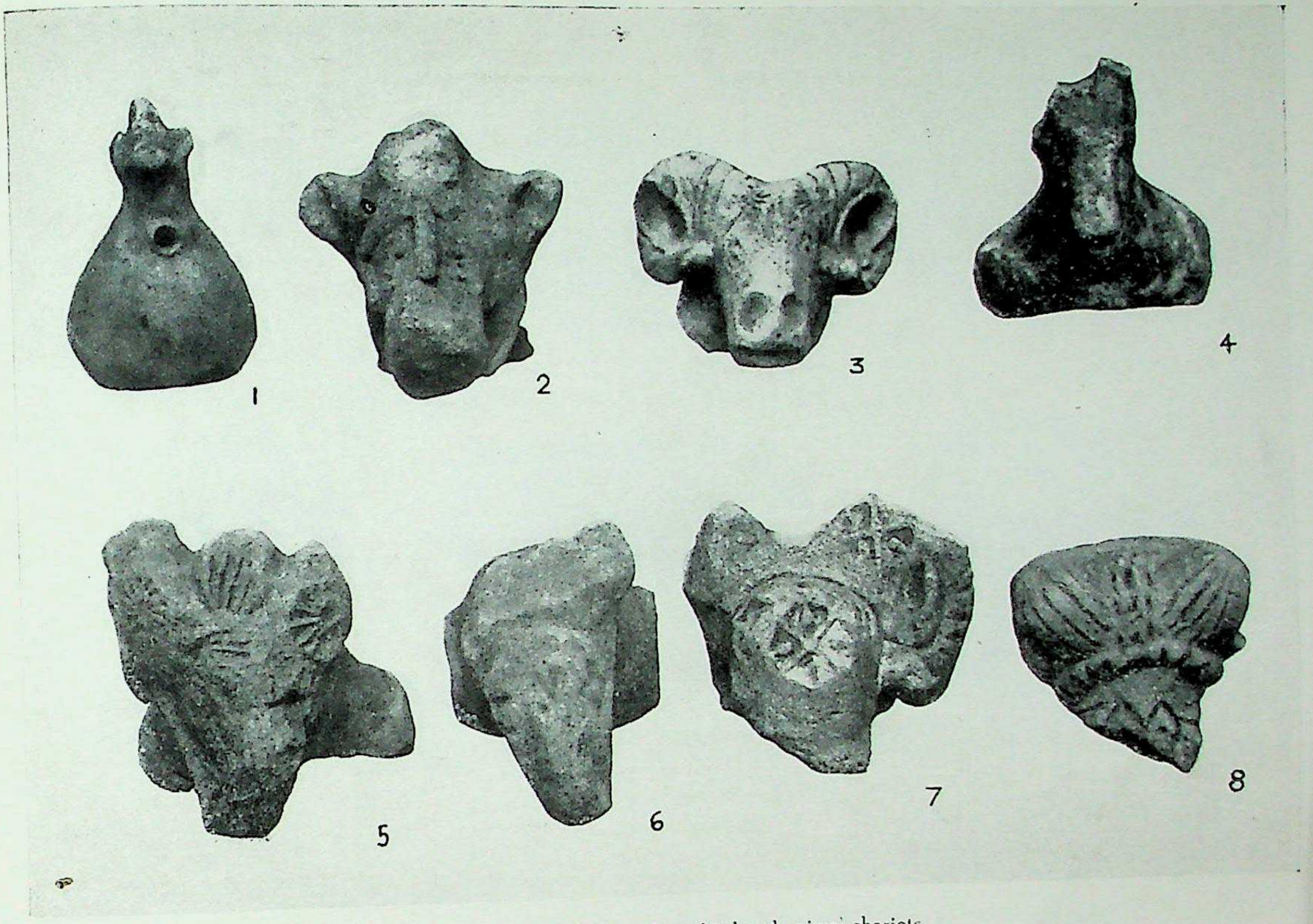


(b) 1. Terra Cotta plaque of fisherman

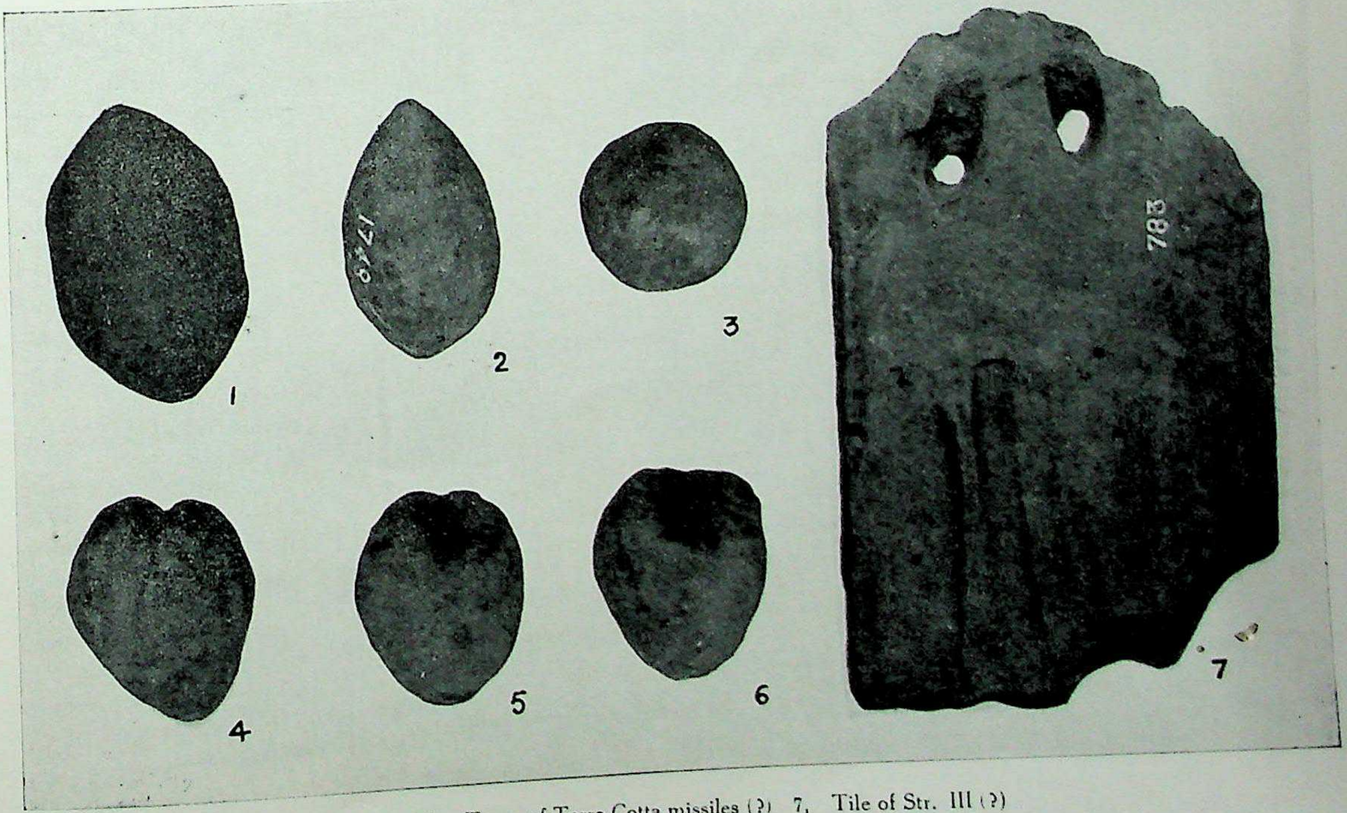


(b) 2. Decorated pottery Vase

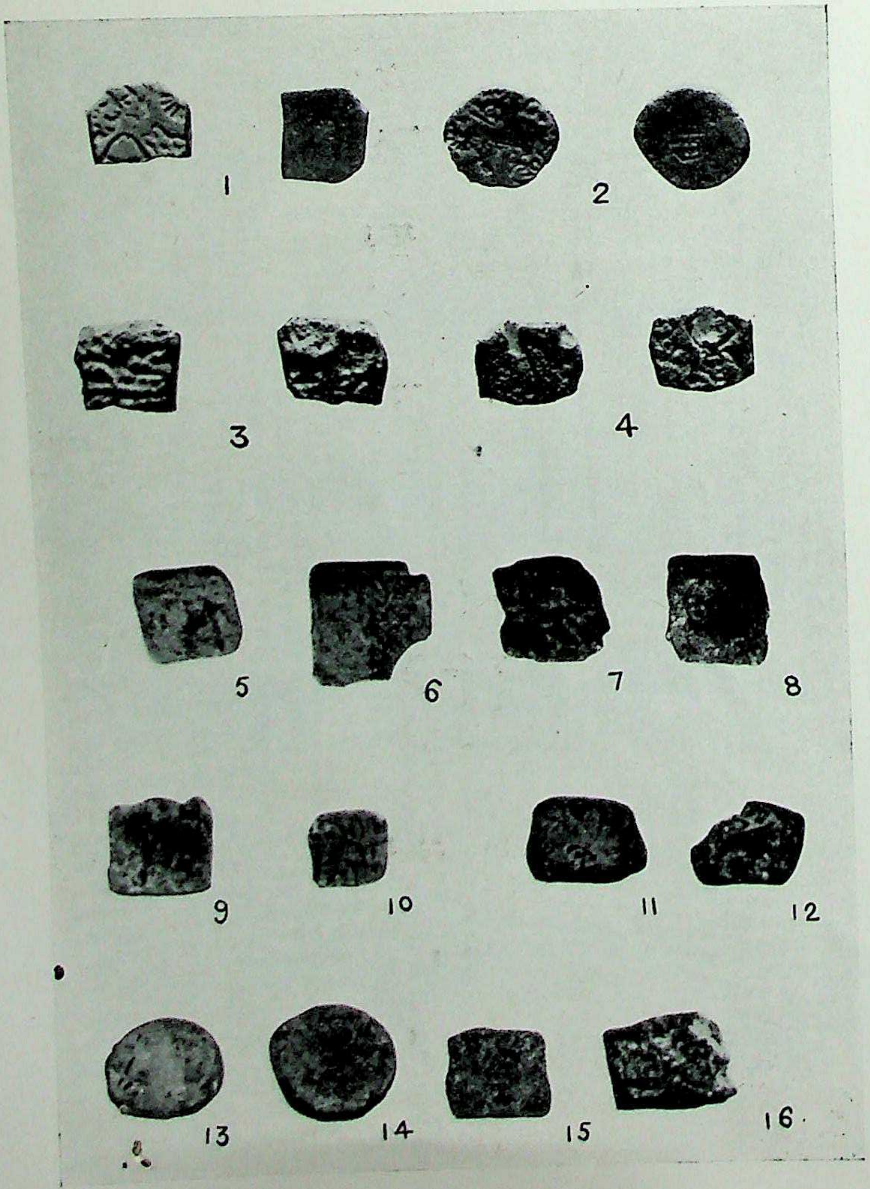
PLATE XXIII



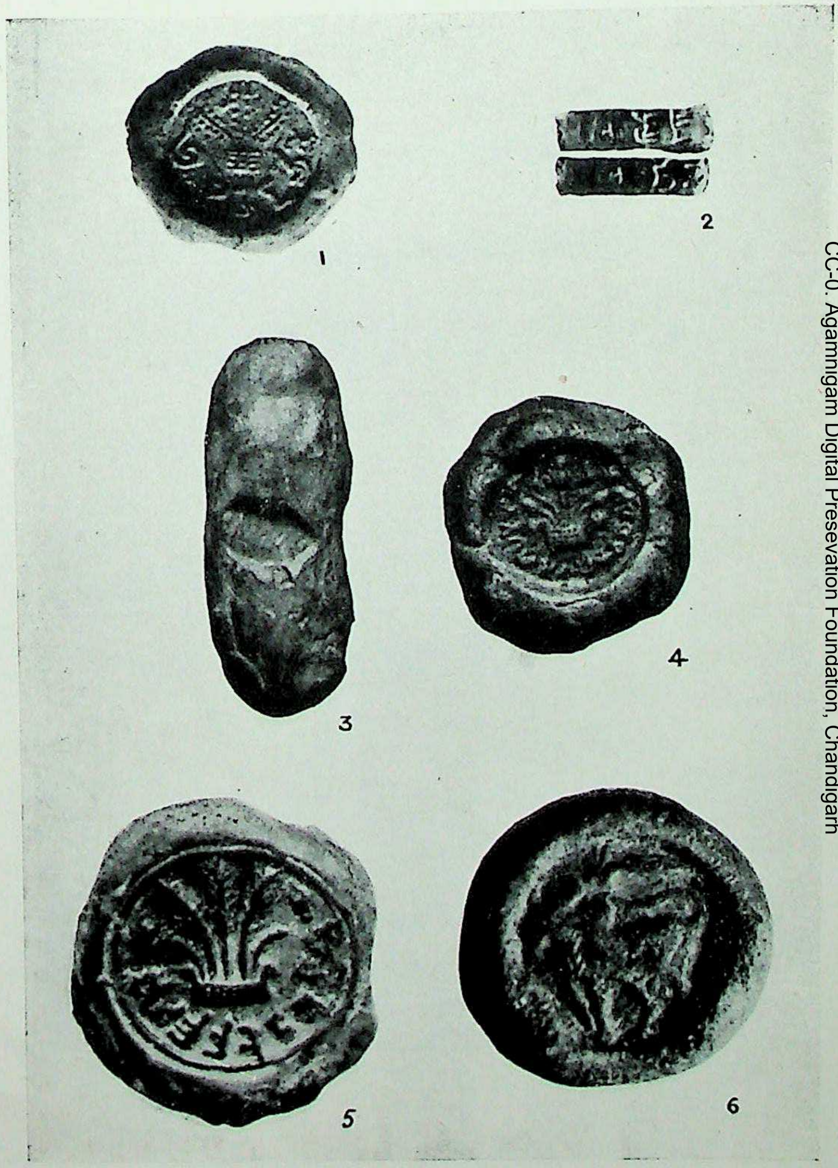
(a) Types of Terra Cotta bird and animal chariots


1
2
1740
3
783
4
5
6
7

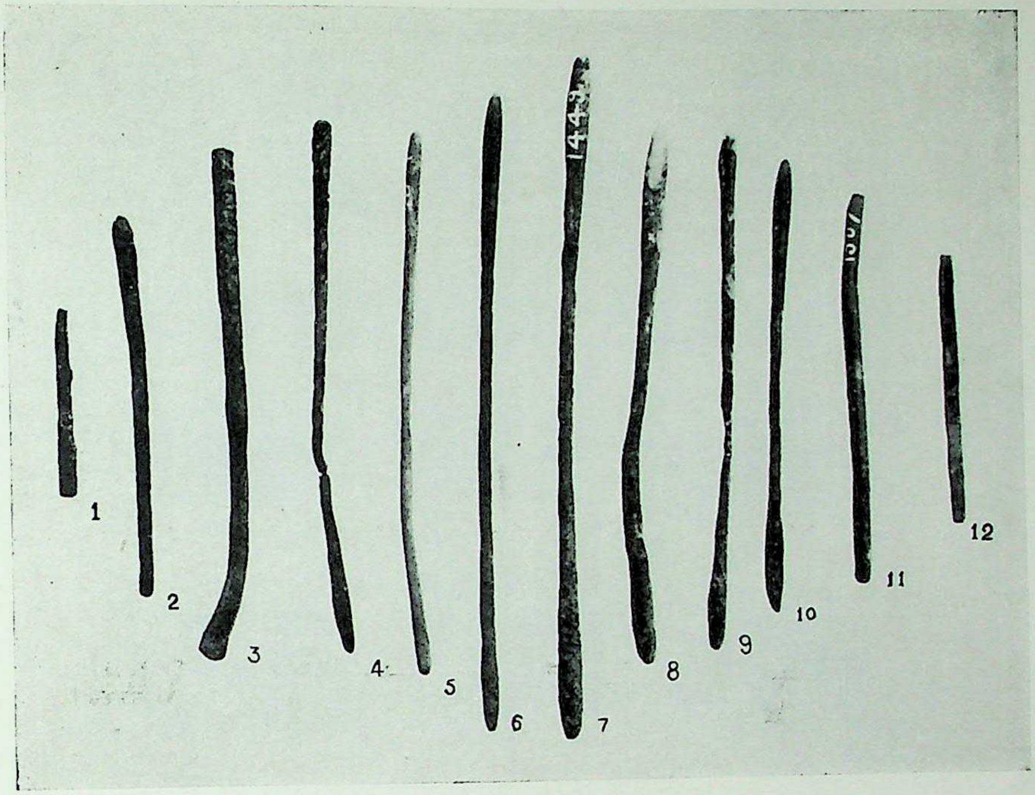
(b) 1-6, Types of Terra Cotta missiles (?) 7, Tile of Str. III (?)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

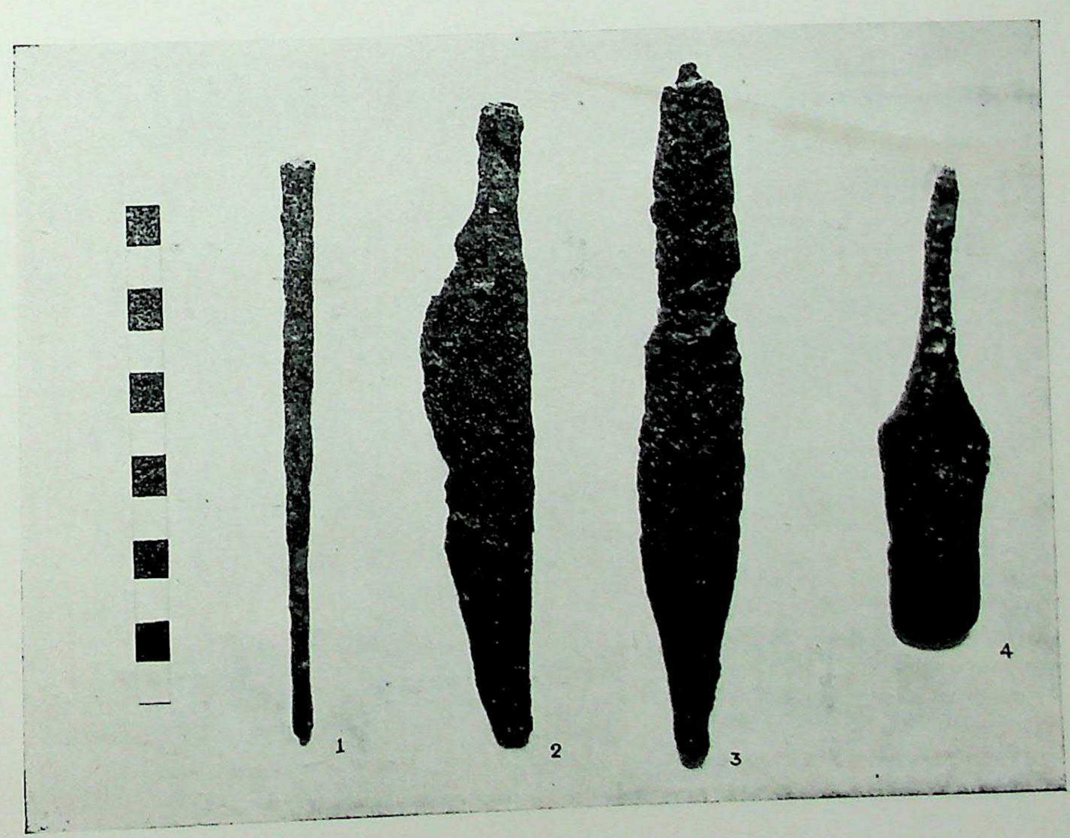
(a) Punch-marked and Cast coins



(b) 1, 3-5, Inscribed clay sea lings
2, Inscribed gold amulet
6, T. C sealing bearing representation of a bull


1
2
3
4
5
6
7
8
9
10
11
12
1449
1551

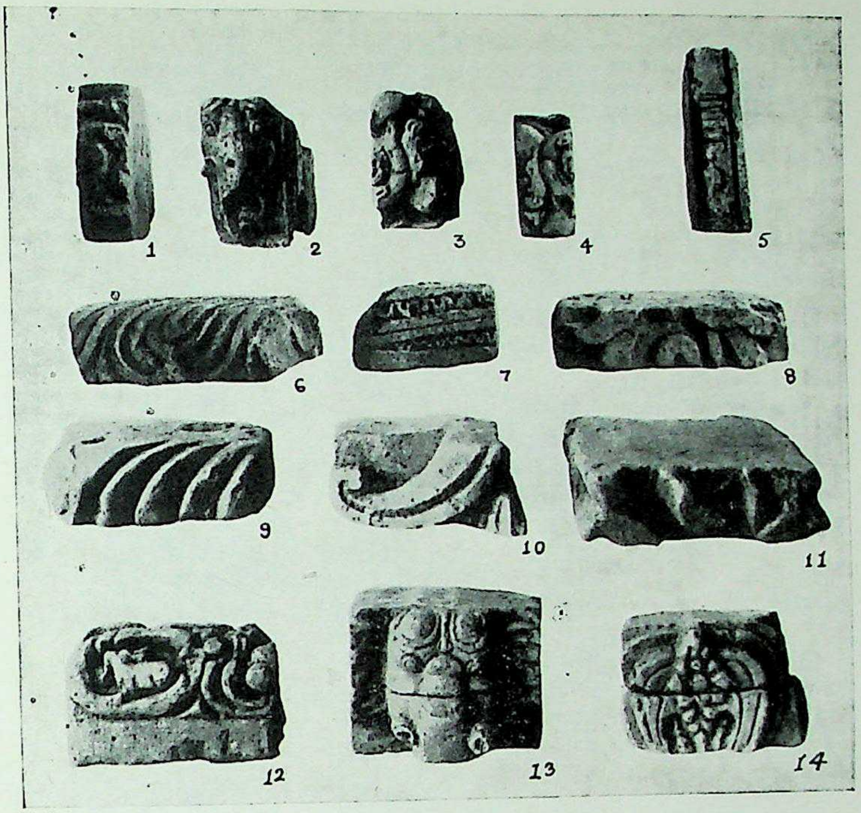
(a) Awls and collyrium sticks of copper



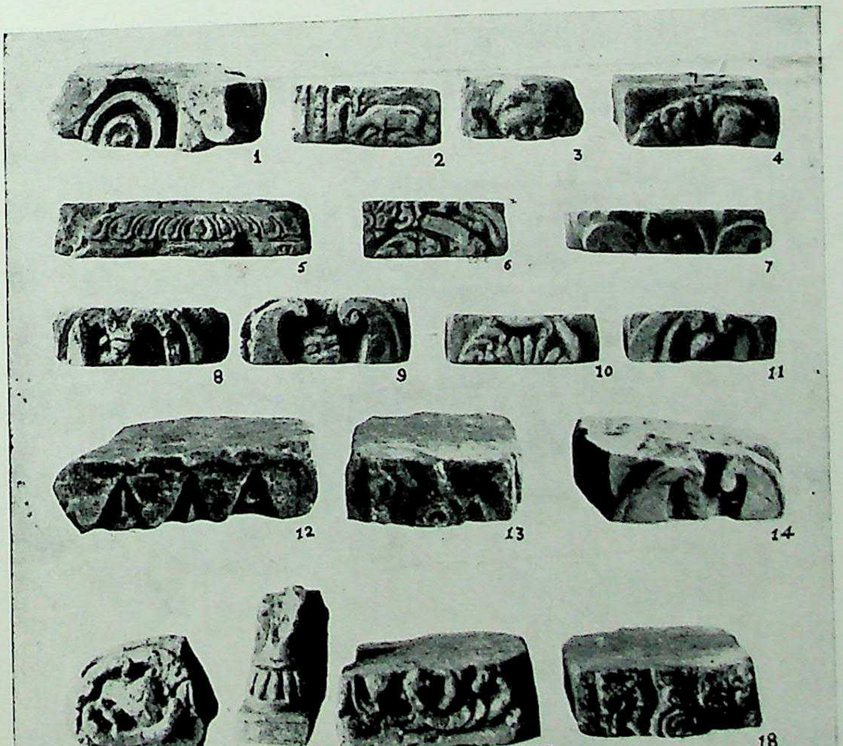
(b) Types of iron implements

PLATE XXVI

(a)

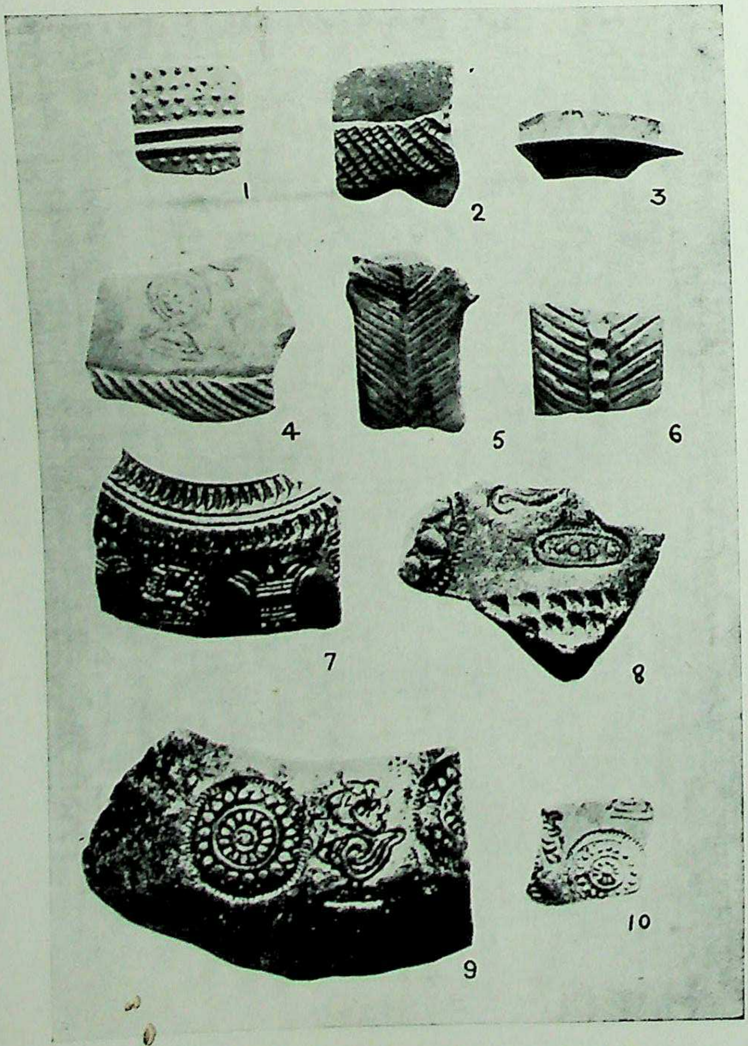

1
2
3
4
5
6
7
8
9
10
11
12
13
14

(b)

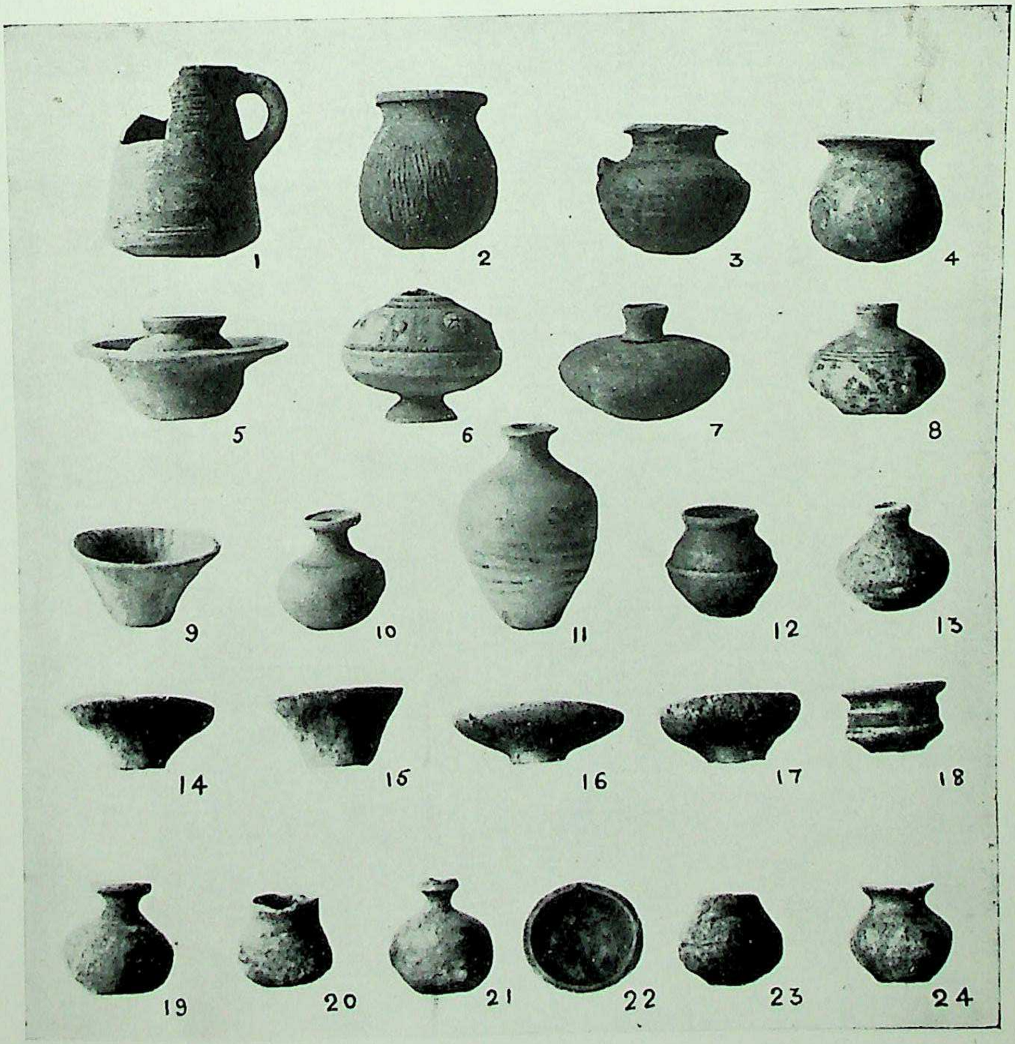

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

(a) and (b) Decorative bricks forming various designs

PLATE XXVII

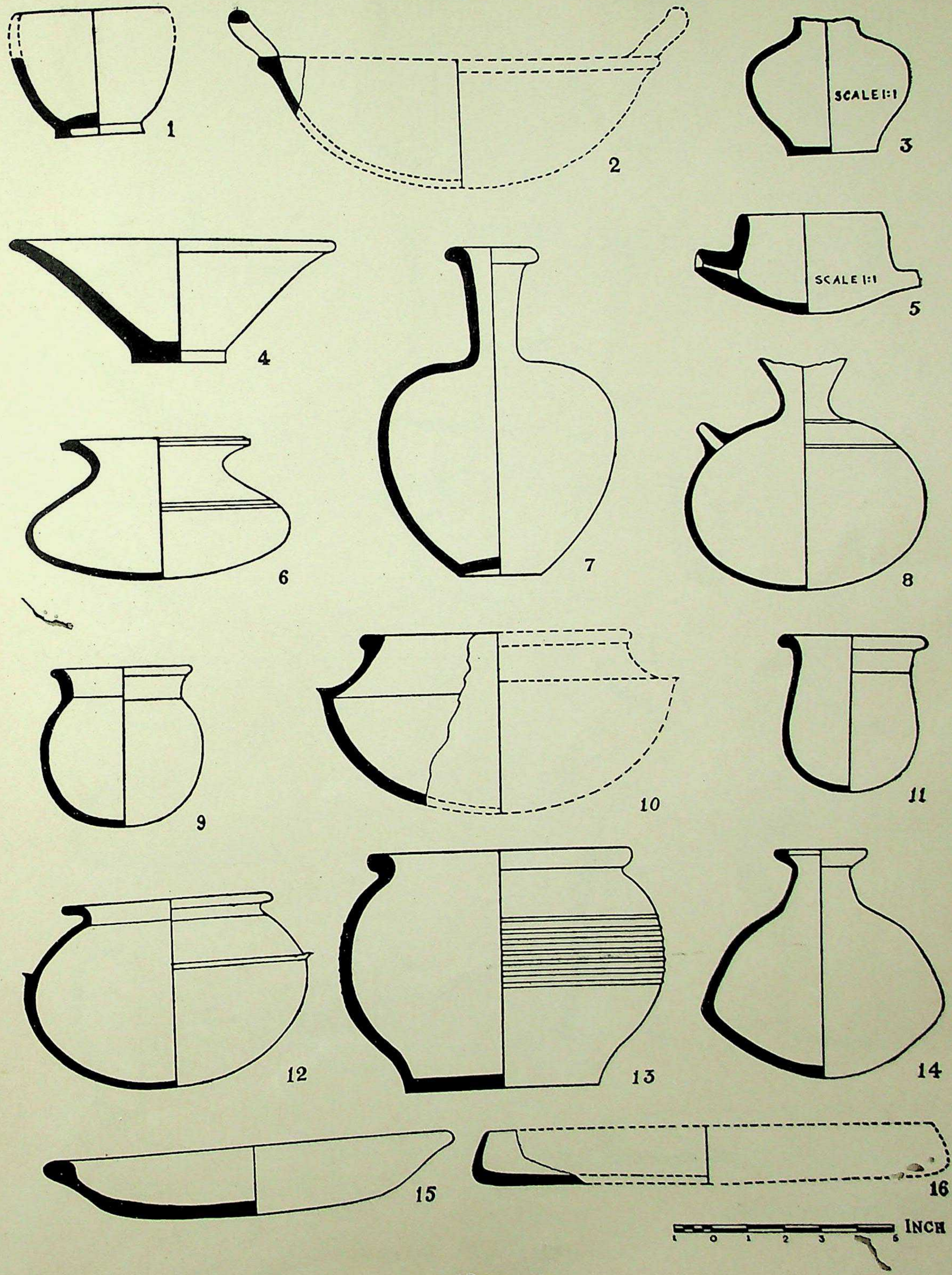

1
2
3
4
5
6
7
8
9
10

(a) Potsherds with various decorattve designs

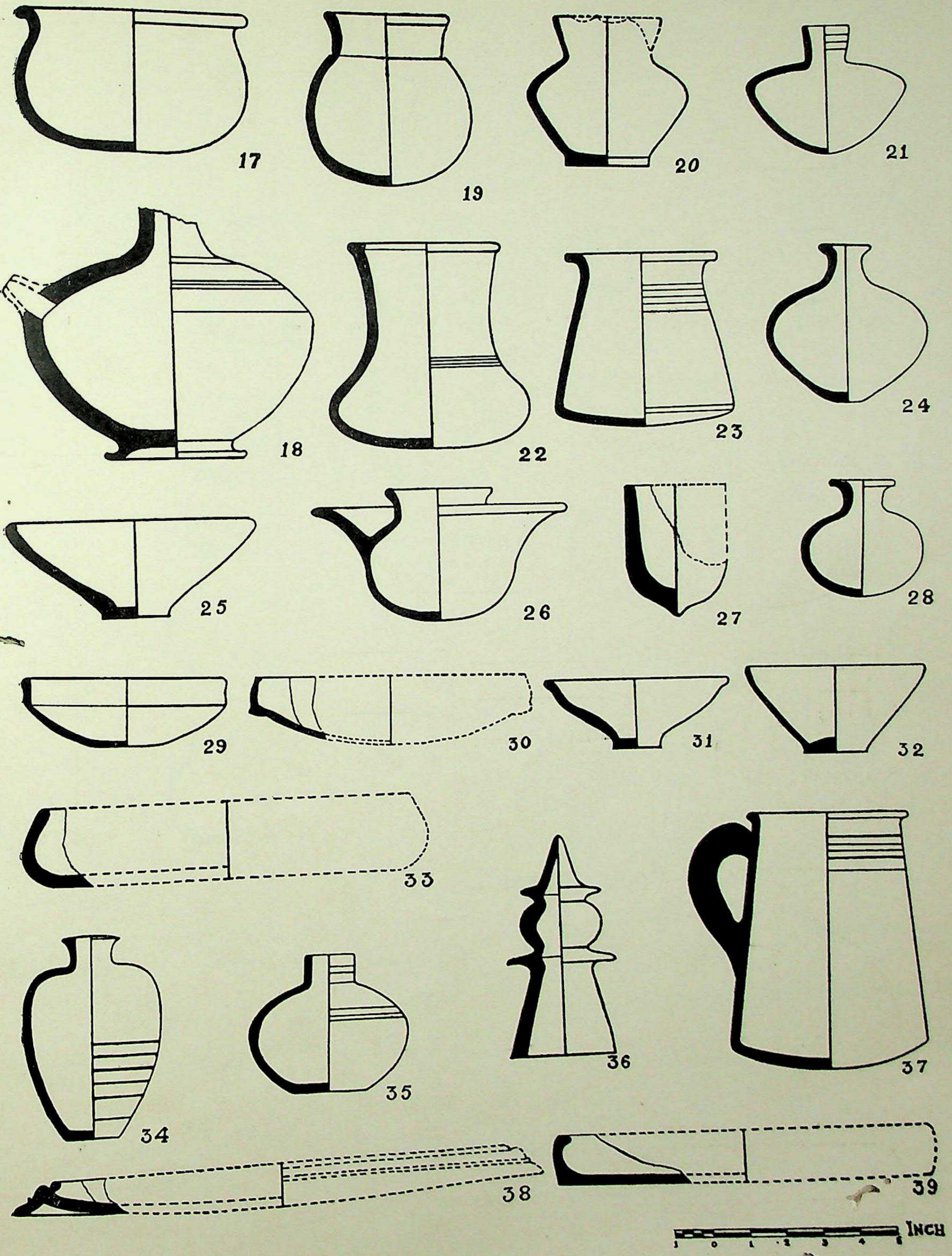

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

(b) Types of pottery

PLATE XXVIII

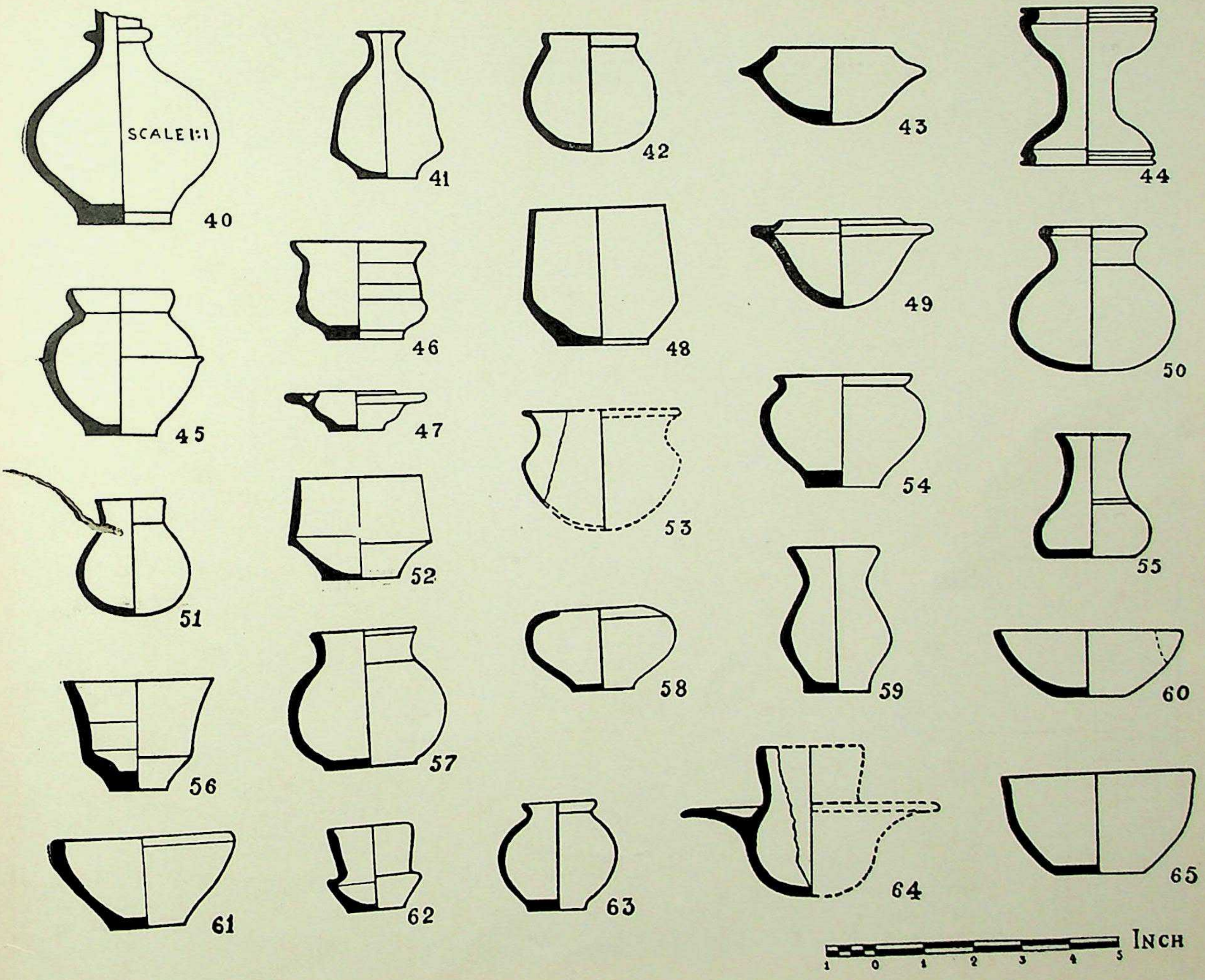

1
2
3
SCALE 1:1
4
5
SCALE 1:1
6
7
8
9
10
11
12
13
14
15
16
INCH
1 0 1 2 3 4 5

Types of Pottery

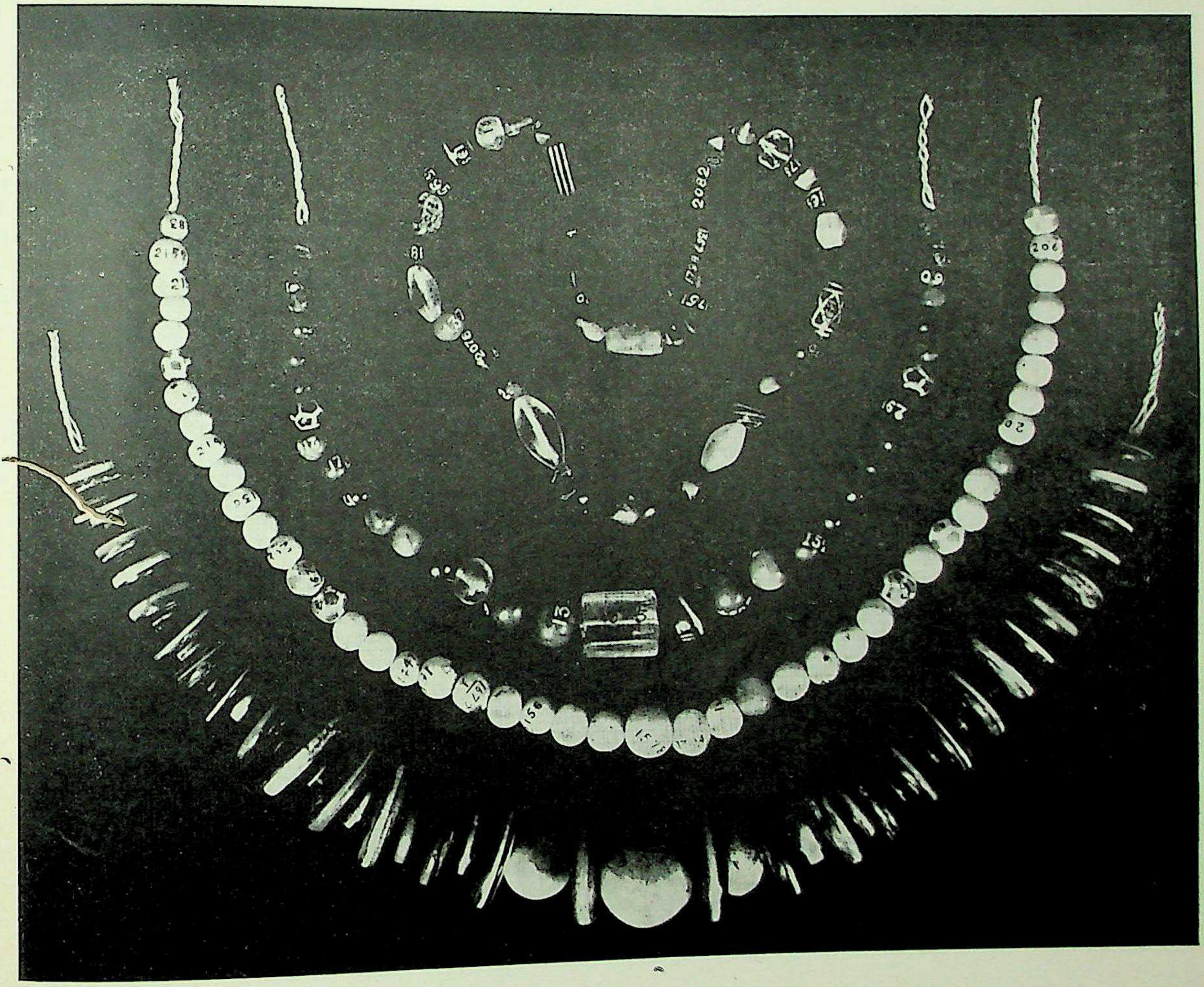

17
19
20
21
18
22
23
24
25
26
27
28
29
30
31
32
33
36
37
34
35
38
39
INCH
1 0 1 2 3 4 5

Types of Pottery

PLATE XXX


40
SCALE 1:1
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
INCH
1
0
1
2
3
4
5

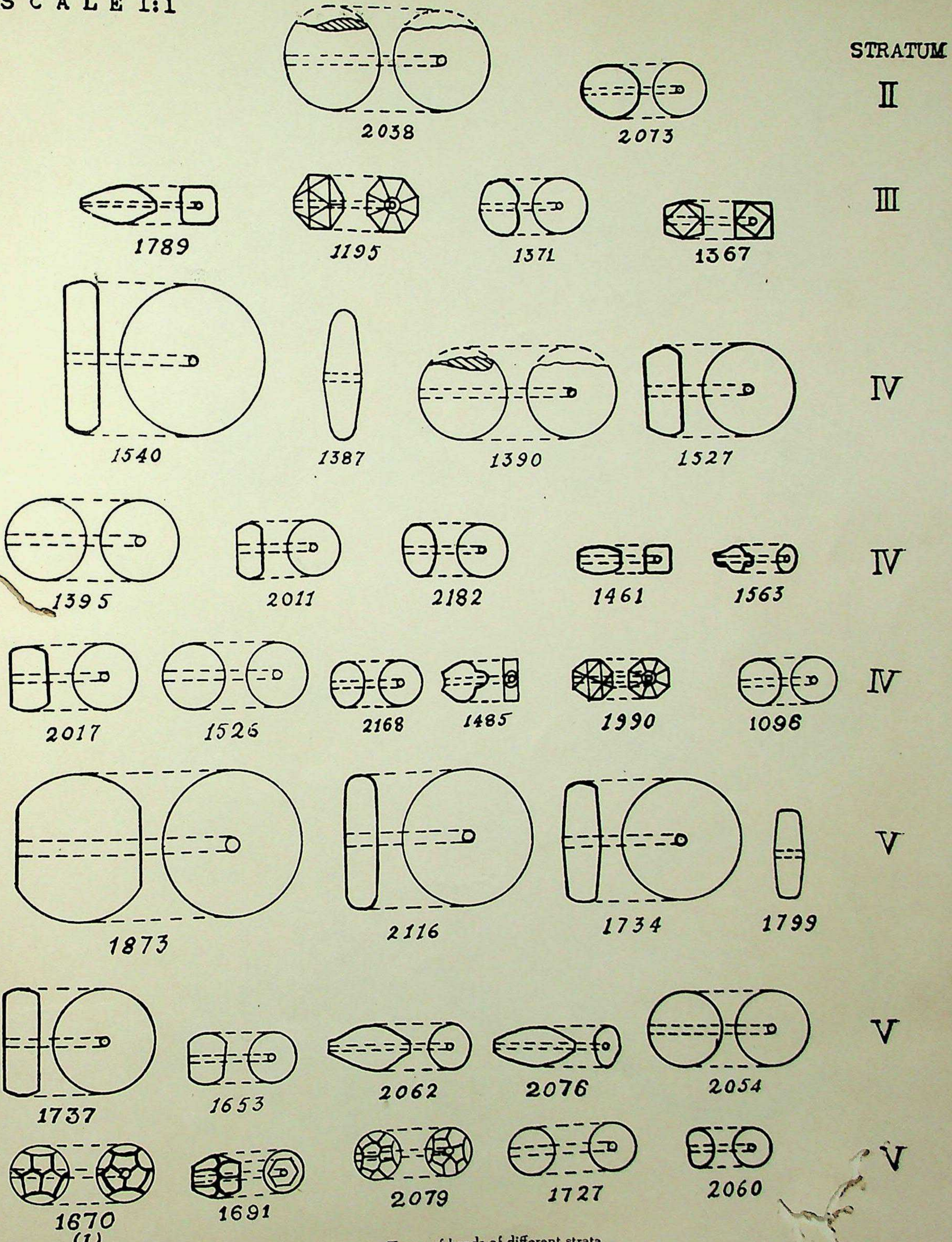
Types of miniature pottery



Types of beads

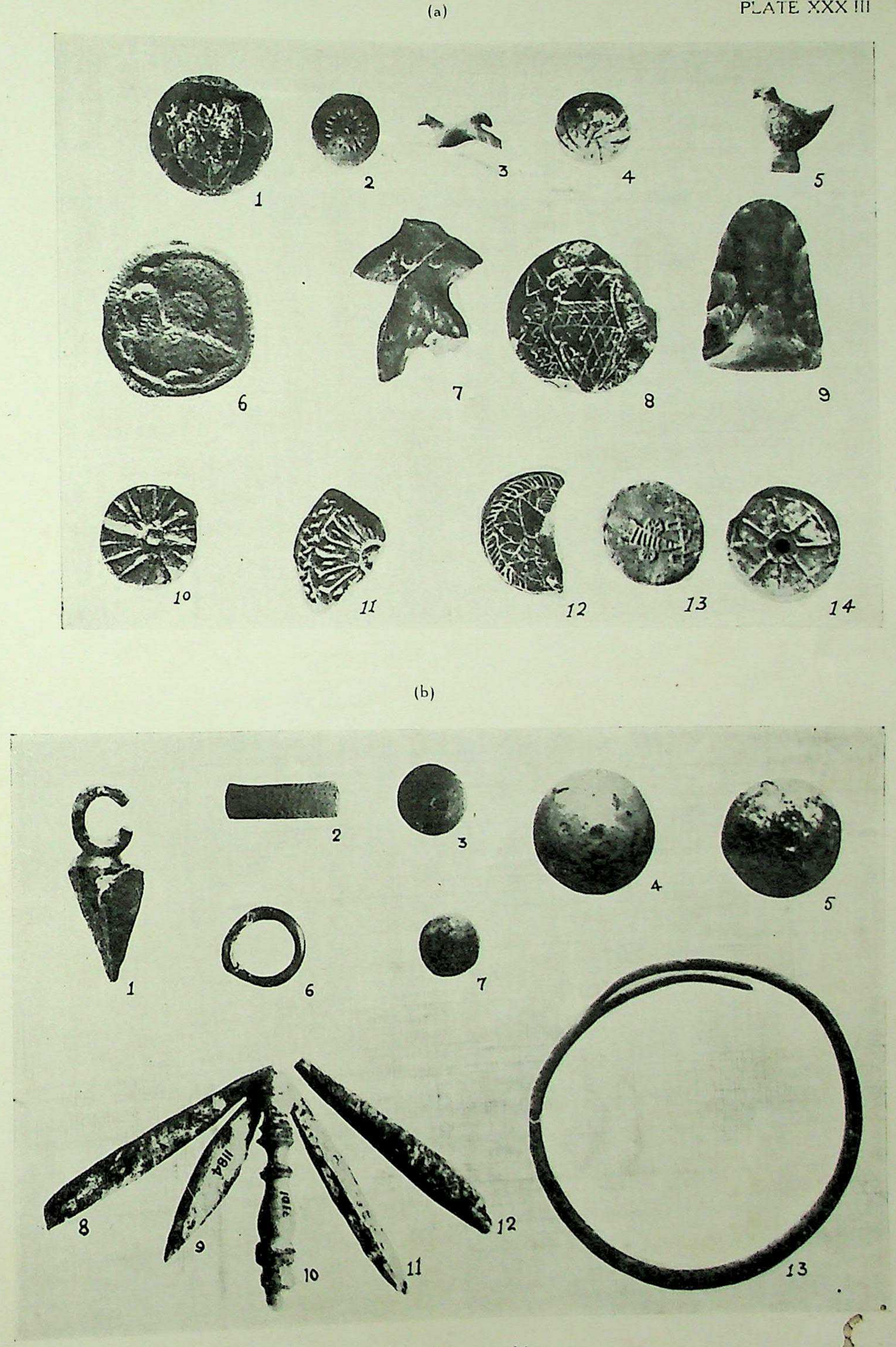
PLATE XXXII

SCALE 1:1


STRATUM
2038
2073
II
1789
1195
1371
1367
III
1540
1387
1390
1527
IV
1395
2011
2182
1461
1563
IV
2017
1526
2168
1485
1990
1096
IV
1873
2116
1734
1799
V
1737
1653
2062
2076
2054
V
1670
(1)
1691
2079
1727
2060
V

Types of beads of different strata

PLATE XXX III


(a)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
(b)
1
2
3
4
5
6
7
8
9
10
11
12
13
1184
1812

(a) and (b) Miscellaneous objects

INDIAN BOOK-BINDING AGENCY
CALCUTTA